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Vol. XXIX.

FEB. 15, 1901.

No. 4.



EDITOR GERSTUNG, of the *Deutsche Bienenzucht*, has a sample of linden honey from latitude 60° north. Like that from high mountains, it has intense aroma, without losing any of its pleasant taste.

THE CENTRALVEREIN for Bohemian bees insures its members free of cost against loss by fire up to a certain limit, and by payment of 1¼ cts. per colony against damages arising from trouble with bees.

YOU ADVISE heating extracted honey gradually, Mr. Editor, to clear it of bubbles, p. 98. The Germans say cool slowly. Both may do better than either alone; the idea being to keep the honey hot long enough for the bubbles to rise, without having it so hot as to injure the honey.

DZIERZON has used with satisfaction in spring, when bees are flying daily, as a stimulant for brood-rearing, skim milk sweetened, less sweetening being necessary when the bees have fairly started. The milk may be fed in combs or feeders, outside or in the hive. If too much is given there will be curd in the hive.

ILLUSTRIRTE MONATSBLETTER FUER BIENENZUCHT is the title of a new German bee-journal edited and published by Theodor Weippl, who has ably edited the well-known *Bienen-Vater* heretofore. In appearance it takes high rank, and, unlike most of the German bee-journals, it is entirely independent of any bee-keepers' society.

ALOIS ALFONSUS, so favorably known among German bee-keepers, is the new editor of *Bienen-Vater*. He starts out well in his inaugural by urgently advising beginners to get a text-book, saying a bee-journal is by no means intended to supplant a text-book, but to supplement it. That's sound doctrine, either in German or English, Herr Alfonsus.

DR. LEISTER is reported in German journals to have subsisted mainly on white bread and ⅓ to ½ lb. honey daily for six months. He

exercised severely and was well nourished, finding candied honey best for his purpose. [The opinion is gaining ground very rapidly that sugars are food, and that they conduce to strength and endurance, and that an excess of them tends to an excess of fat.—ED.]

THE EDITOR of *Le Rucher Belge* has been measuring some old combs, and endorses Editor Root's views as to their being all right for brood. But he says bees prefer new comb, and so do queens. Others have said the same thing. I don't understand it. Give my bees old black comb and new comb side by side, and they'll prefer the old every time, whether for brood or honey.

ARTHUR C. MILLER thinks uncapping-forks are no new thing, having been mentioned several times in old issues of bee-journals. Yes, I've used such a fork for years—learned it of M. M. Baldridge. But I used it to uncap for the bees, not for the extractor. Such a fork *scratches*; but, if I understand rightly, the German fork slices off the cappings as well as or better than a knife.

THAT HEADING on p. 89 is hardly fair to shallow brood-chambers. E. F. Atwater's experience would probably have been the same in a deep chamber. I agree with you, Mr. Editor—no, I don't—I go further than you, and say that putting a colony on starters not only discourages but almost invariably prevents swarming. Desertion may occur at first; but that's another thing, and may be prevented by penning the queen in the hive.

TO FRIGHTEN away robbers, it is recommended in *Leipziger Bztg.* to put a looking-glass before the entrance. [It depends on how bad the robbers are. I have seen the time when nothing in the world would stop their onslaught but a good piece of wood wedged tightly in the entrance. If the case were a mild one I should not be surprised if a mirror might accomplish something, for the robber would apparently be rushing right toward another bee that it supposes is about to grab and pull it down.—ED.]

THE PORTER ESCAPE should not be forgotten, in summing up inventions, says Arthur C. Miller, referring to a Straw on p. 43. That Straw, friend Miller, was not intended to ex-



haust the list; only to introduce the subject in hopes that some one more competent would take it up. It might not be of any practical value, but it would at least be interesting to see a full list of all improvements in the past 60 years, with names and dates as far as possible. [No, indeed; the Porter bee escape should not be omitted; for in the saving of time, and in the saving of disagreeable work, no other invention of recent times has accomplished as much. Say: I do not know but it would be a good idea to have a list of all the great and important inventions relating to bee-keeping. I'll try to prepare such a list, and then submit it for revision.—ED.]

DR. JOHANN DZIERZON, the beloved altmeister of German bee-keepers, was 90 years old on his last birthday, Jan. 16. He is still vigorous, and made a strong address at the last great German convention. As evidence of the high esteem in which he is held, the January numbers of German bee-journals contain many pages concerning him. But Dr. Dzierzon belongs not to Germany alone; he is too great for that. He belongs to us, and to the whole world. No other man living has done so much for bee-keeping. Long may he live! [Is not your last sentence, doctor, a little strong? I am a great admirer of Dr. Dzierzon, and believe he has done much for the advancement of scientific apiculture; but to say that no other man living has done as much for bee culture would be questioned by many beekeepers.—ED.]

ABOUT THREE YEARS ago (GLEANINGS, Vol. 26, p. 292), a Stray Straw said, "Bro. Richey and I believe in breeding for long tongues, even if some editors don't;" and the footnote said, "But some of us have not seen those bees yet with long tongues, notwithstanding all the talk about them." Then a little later (p. 502) the same footnote said, "Are you really sure, doctor, that some Italians have longer tongues than others?" That same footnoter is now the craziest of the crazy on long tongues. And yet some people say no progress is being made. [Look here, doctor; you do not need to go back into old ancient literature. It may give you a great deal of satisfaction, but it may not please other folks. But I have the same opinion that I always had about a glossometer; that is to say, I do not take much stock in that way of measuring bees' tongues.—ED.]

AT A CONVENTION reported in *Revue Internationale*, M. Seiler showed a bottle of concentrated chemical preparation used by adulterators to give the proper odor to adulterated wax and honey. If one can judge by the foreign journals, America does not take the lead in the adulteration of honey, and is far in the rear in adulterating beeswax. [So far as I can remember, never even a taint of suspicion has ever rested on the makers of foundation in the United States as to the purity of their product. The paraffine and ceresin foundations were very unsatisfactory to those who tried them. Perhaps they might be used if the frames were excessively wired. After all, the general consensus of opinion of those who are in position

to know is, that genuine beeswax is the cheapest in the long run. Economy in foundation will not come by cheapening the product from which the product is made, but rather in reducing the excess of wax now in the cell bottoms or septa. While we have made great improvements in this one respect, there is still room for more improvement.—ED.]

"IS IT TRUE that outdoor-wintered bees are always stronger in spite of the extra consumption of stores?" p. 103. Not "always," but I'm afraid they generally are. Let me give my guess in the matter. A weak colony suffers from severe cold more than a strong one, as a greater *proportion* of its bees form the outer crust. A strong colony suffers more in the average cellar than outdoors, in spite of the more favorable temperature of the cellar, because the air is impure in the cellar and pure outdoors. [I would suggest that our readers watch this matter of outdoor and indoor wintered bees very carefully this coming spring. Take count of the amount of stores consumed per colony by the outdoor and indoor bees; then see which ones are the first to go into the supers, or, better still, which produce the most honey. But, look here: Suppose the bees of an indoor colony have long tongues, and the indoor colony, of the same strength, has short-tongued bees. Well, at all events it would do no harm to take observations, for it is only by a general comparison extending over several years that we can get at the truth of this matter.—ED.]



We wait, impatient, for mild Summer's reign  
To bring the flowers so nice.  
Then turn, perspiring, from those flowers  
To bless these blocks of ice.

#### AMERICAN BEE JOURNAL.

At the last session of the Illinois State Beekeepers' Association a paper from Mr. Geo. W. York, the editor, was read. His subject was "Pure-food Legislation." Concerning the reason that laws on this matter and others concerning the public health are not properly enforced, Mr. York well says:

Another very important requirement to the successful results of pure-food legislation is honest officials — officers who know no better than to enforce laws just as they find them, without fear or favor. No law ever enforced itself, and never will. The reason, almost invariably, why prohibition doesn't prohibit is because of officials who don't officiate honestly and fearlessly. I believe, however, that the present pure-food commission of Illinois are all right, but that the fatal weakness is in the law itself.

But so long as the "dear people" persist in electing, as their State lawmakers, saloon-keepers, pothouse politicians, gamblers, and frauds, just so long may they expect to have weak laws — laws that fail at the most crucial time, because they were enacted with that intention. The people must act honestly and decently themselves in the selection of their lawmakers and public officers; then, and not until then, need they expect that good laws will be furnished and properly enforced.

The following letter, relative to the big bees of the Philippines, was sent to us by Mr. J. M. Woodhouse, of Dubuque, Ia. It was written by his son N. E. Woodhouse, an American soldier in the Philippines. As it contains much of interest in regard to the big bees of that place it is given here entire. It will be noticed that Jumbo despises any house smaller than outdoors, and has no idea of what "benevolent assimilation" means.

*Dear Father:*—I have something to tell you which I know will interest you. On the 16th a large swarm of bees came here and lit on a tree about 40 ft. from the ground. They were the first I had seen here, and I was determined to live them; so I got a ladder that reached them, fixed an old rough box in readiness, and put on two pairs of gloves, and some mosquito-bar over my face, and took a rice-bag up, slipped it up over the bunch, crowded them off the limb, and got them almost all into the bag, closed the bag, and brought them down as smoothly as could be. About 200 natives had gathered to watch the operation, but were very careful to keep away. They never saw any thing like that; and the soldiers thought they were going to see some fun, but did not see it. I could not get them into the box out of the bag, so I shook them out on the alighting-board, and they went up into the tree again. I went up and brought them down the next day, but could not get them into the hive. They went back into the tree, and yesterday they left and went close to the hospital, and went into an old building. I cut a round hole in a box and slipped it up over the bunch, crowded them loose from where they hung, put a board over the hole, and had them in a nice comfortable home with honey to eat, which I had bought out of the sales commissary. To-night I took the paper out of the entrance at sundown and gave them their liberty, and they immediately came out and lit up under the eaves of the church. I believe they will go to work there.

All that I used to know about living bees in the United States has failed to work here: i. e., so far as I had the wherewith to work with. They simply will not stay in a box. They are a beautiful bee, considerably larger than the Italian. Instead of having the yellow stripe they have a silvery-white stripe with the black.

If I could have got them to work in the common box I would have made a movable-frame hive and reared some more queens and sent the queens back to you; but I guess I shall have to give it up for the present.

N. E. WOODHOUSE.

Grayat, P. I., Oct. 20, 1900.



### THE PAN-AMERICAN EXPOSITION.

Something of What it will Be, from the Standpoint of the Bee-keeper.

BY OREL L. HERSHISER.

[The following letter is in answer to one I wrote to Mr. Hershiser, stating that I was receiving a good many inquiries, and also that a number of clippings had been sent us, but that I disliked to take any of this kind at second hand, and hoped that Mr. Hershiser himself, superintendent of the apiarian exhibit, would give us full particulars from his own pen. In response to this he has sent me the following letter.—ED.]

*My dear Mr. Root:*—Answering your note of January 25, regarding the Pan-American, the whole matter might be summed up in a single statement, to the effect that there will be here presented greater opportunities for instruction, amusement, and the cultivation of

taste for the beautiful, than have ever before been afforded at an exposition in the western hemisphere, and, according to the statements of persons well qualified to judge, the architectural and landscape effects of the Pan-American will make it the high-water mark of the expositions of the world. This is a broad statement, but one which the facts support; and when we consider the elegant symmetry that has been studiously observed in the grouping of the buildings and laying-out of the grounds, the pleasing and harmonious color effects of the exteriors as well as the interiors of the buildings, the novel and beautiful Spanish architecture, and the elegant landscape, the claim seems to be merited.

Judging from present indications the apiarian exhibit will not be least among the many novel and instructive attractions. It promises to eclipse every thing in this line ever attempted, and this notwithstanding the general shortage in honey production in many localities within the United States and Canada during the past two years.

This exhibit will be a veritable wonderland, not only for apiarists but for that larger class of users and consumers of honey. It is designed to make this exhibit educational as well as entertaining, to the end that the fallacies affecting the pursuit of apiculture may be, as far as possible, rectified. A model apiary will be in operation to show, in a practical way, just how both comb and extracted honey are produced. Exhibits showing the relation of bees to horticulture will be a prominent feature, and the mistake of spraying fruit-trees when in bloom will be demonstrated, as well as the absolute necessity of the presence of bees during the season of bloom in order to make horticulture, in any sense, a paying pursuit. Vast quantities of both comb and extracted honey, prepared in the most attractive and appropriate forms for market, will be shown. It is safe to say that this most interesting feature of the exhibit will include the nectareous products of all valuable honey-plants to be found within the Americas and the island possessions of the United States. There will be a complete and exhaustive display of manufactures in which honey forms a component part, and beeswax and the many and various manufactures therefrom. A distinctive exhibit of honey-plants, as a part of the general outdoor-growing horticultural and floral exhibits, is contemplated. There will be several large and attractive exhibits of apiarian supplies, comprising specimens of all approved hives and every tool, device, and preparation needed in the pursuit of apiculture.

Several State and Provincial exhibits are already assured, and others are under advisement. It may also be stated that individuals, no matter where situated within the Americas, have an opportunity to exhibit their apiarian manufactures and products. One person in this class proposes to install an exhibit comprising a carload of 30,000 pounds of comb honey, and it is expected that there will be others of great magnitude, especially from localities noted for large production of honey



of a standard and uniform grade, as is the case with the alfalfa of Colorado, the sage of California, and the basswood of Wisconsin. Many of these, as well as some State exhibits, will be of the present season's honey harvest, and will not be installed before the middle of July to the middle of August; but application for space should be made early, in order that it may be provided.

Apiculture is accorded a prominent place in the exposition, and a special building, in an excellent location, will be provided for the apicultural exhibits, the extent and size of which will be commensurate with the needs and desires of the bee-keepers who will exhibit. Mr. F. A. Converse, Superintendent of live stock, dairy, and agricultural products, is deeply interested in this important branch of rural husbandry, and the apiarists are most fortunate that their interests have fallen under his excellent supervision.

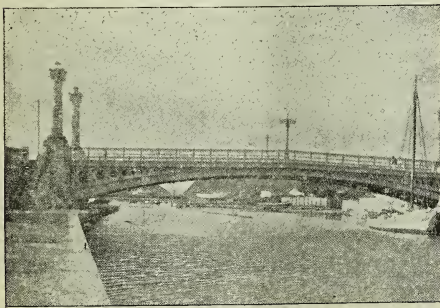
1106 D. S. Morgan Building, Buffalo, N. Y.

## GLIMPSES OF CUBA AND CUBAN BEE-KEEPING.

BY A. L. BOYDEN.

For some time past the readers of GLEANINGS have seen frequent articles by different writers with reference to the state of bee-keeping in Cuba. These articles have fired me with a desire to visit that country, and see for myself the conditions as they exist there, not only with reference to bee-keeping, but relating to other industries as well.

Accordingly, on the morning of Dec. 20 the steamer Curityba brought me in sight of Matanzas, 60 miles east of Havana, a beautiful city of 75,000 inhabitants. I found very few



BRIDGE AT MATANZAS.

Americans in Matanzas, and experienced some little difficulty the first day or two in making my wants known. I soon found my way to the store of Thos. D. Crews, formerly of Florida, now a merchant in that place, and he gave me much valuable information. After visiting him I took a stroll about the city. I first went out on the roof of the hotel "Paris," from which point I could see all of the city and surrounding country very well indeed. A great many of the buildings are provided with

means of access to the roofs. The roofs are made of brick or tile, mainly of the latter. I found one of the railway stations, and the yard adjoining, very similar to those in our large cities of the Northern States. The streets of the city are very narrow, though not as narrow as those in Havana, and the sidewalks are in proportion, being only eighteen to twenty-four inches wide in many places. The windows of the dwelling-houses, stores, and hotels are tall and wide, with no glass, but simply closed shutters or inside blinds, which are folded back in the daytime. These windows are all provided with grates or bars, giving the buildings quite the appearance of a jail or prison. Most of the houses are built right up to the walk, there being no yard in front at all, so one passing along the sidewalk looks directly into the sitting-room or parlor of these houses.

The city lies at the intersection of two rivers, and has several fine bridges. Toward the west lies a series of hills which are very beautiful. I found the streets well lighted with electric lights, but the lighting of dwellings and many public buildings is very inferior.

I found no apiaries located near the city; but on going out to Ceiba Mocha, nine miles distant, I found a number of Americans who had recently embarked in this pursuit. Here I found the apiary of Thos. D. Crews, also that of W. B. Cilley, and several others of smaller beginnings.

I am told that Ceiba Mocha, prior to the late war, was a prosperous village of some 8000 people. Now it is said to contain 800 inhabitants, though I could scarcely believe that this number were to be found in the place. Near the railway station is a typical Cuban apiary of some 500 box hives. These hives are made of four boards about 12×30 inches long, nailed together, forming a tall box. The ends are left entirely open. These boxes, instead of standing on the end, which would make them look somewhat like the old "American" hive, are laid down on the side, resting on blocks a few inches above the ground or on low benches. The sight of these hives, filled from end to end with combs, and well covered by bees was enough to give a beekeeper a touch of the "bee-fever."

I found that the surplus is obtained by cutting out the combs of honey from each end, perhaps one-third of the distance from the end toward the center. The brood, naturally, is in the center of the hive, so the combs in the end contain very little brood as a rule. With a smoker or pail of smoking wood the bees are driven back from one end so that the combs are cut out with very little difficulty from one end, and later on they are cut from the opposite end.

In this apiary there is a sort of honey-house in which I found a large trough hollowed out of a log, and a press in which the honey is pressed out of the combs. If there is any brood or pollen in the combs, that has to be mashed up with the rest. No effort is made in these box-hive apiaries to put up a nice article of strained honey where extractors, of course, are unknown. The honey is put up

in tierces of about 100 gallons, loaded on to two-wheeled ox-carts, and hauled to the nearest market. I took a snap-shot of this yard, but, unfortunately, the tropical vegetation was so heavy that the picture does not show the hives sufficiently clear to reproduce.

Near the apiary of Mr. Crews, which is managed by Mr. Frierson, is another large box-hive yard. In company with several American bee-keepers, some of whom could speak Spanish, we visited this yard, wanting to get another picture to show the readers of GLEANINGS. The same conditions existed here—a very heavy foliage—and I secured no picture sufficiently good to half-tone. I had quite an amusing experience, however, in trying to get this picture. My interpreter told our Cuban friend what I desired, and he gave his consent to have me photograph the yard. It appears that he did not understand the matter very well, and when I went to the lower end of the yard to snap my kodak he came rushing up, gesticulating wildly and talking vociferously. The bees were getting roused up at this point; and as I did not understand his Spanish I concluded that he was afraid I would get stung. Being a bee keeper myself, I determined to take my chances, and so held my ground until I had made two exposures (both failures, however), and then went back to the upper end of the yard where the rest of the company were. When I got there I found I had offended this man very much indeed, for he thought I had come with some sort of music-box to entice his bees away. It is reported that he lost a large number a year or two ago in the same way, and he is very suspicious of anything he does not understand now. We tried to explain the matter to him, but did not succeed in pacifying him.

I found a large amount of honey is shipped from Matanzas every year. The production of strained honey naturally results in a large accumulation of wax, and these box-hive men are reported to receive about as much for their wax as they do for their honey.

In our next issue I will give a view of Independence Street, in Cardenas, and how I spent Christmas with the mosquitoes.

Medina, O., Feb. 10.

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## CUBA.

Locations; Climate; Social Life, etc.

BY HARRY HOWE.

Very frequently I am asked by bee-keepers in regard to locating in Cuba. In my opinion Cuba is the place to raise honey; but one must expect to put up with things that he would not in the States. If I were not sure that Cuba is all right I would not be making contracts for years ahead, as I am in renting locations, etc. There are, however, several reasons why I always advise my correspondents not to come. First, one can not do a thing until he can speak the language. A bee-keeper must of necessity locate at some distance from the places where he could have

American neighbors, for all of those places are already overstocked with bees. Besides, one does not like to depend on some neighbor to do all of his business for some months. So if one wants to come here he must either learn the language first, or get a place with some other American while he is learning it. The chances for that are not very good, for all of us have a waiting-list of considerable length, to say nothing of always having some personal friend in view for the next opening.

There are several chances to work for Cubans, but one must know Spanish.

Then there is the climate. While the winters are fine, the summers are not. Men from Texas or Florida, for instance, get along pretty well with it, but men from the North are apt to have a hard time the first summer. I got it so bad I had to go to New York and lie up in a hospital several weeks (this from "bicycle heart"). Heart disease is very prevalent among the natives, but consumption takes the worst hold. Then there are the malarial fevers which also get the northern men. For these reasons, no one with either heart or lung trouble should try to live here in summer. The winters are fine for both, for the air is then generally dry and clear.

I say nothing of yellow fever, for there is no danger of that in the country, nor to men of regular habits if they do get it.

Then comes the trouble to find locations. For instance, one of my yards is just piling in the honey, while one eight miles away is not much more than making a living at present; yet four months ago, when I located the last one, that location looked to be the better of the two.

A stranger coming here would find it very hard to get a good place. This fall one man came from the States with some bees which he took to a place he had heard called a good one. After he had been there a while he found there were 2000 colonies within three miles of him. The location was good, but badly overstocked.

No one seems to know what is on even the next farm. He must go and look for himself before he knows whether there are bees or not.

Then there is no social life here. A man must be able to amuse himself in some other way to be happy. When I say no social life, I mean for us stray Americans. Society is very exclusive, and it is only by a long residence here, or by some accident, that one gets into it; and when he does, it is so different from northern ways that one has to learn anew.

But if one is prepared to enjoy nature, if he knows some botany, entomology, or geology, he can be perfectly happy here. Where one can go out every day and find a bug or a plant or a fossil not down in the books he can be sure of enough to keep him busy, and he can get honey. One friend has already this season 75,000 lbs. from 500 colonies, and the season is only about half over. Another started with 32 in April, now has 170, and 20,000 lbs. of honey. But, again, white honey, the finest in the world, brings only 3½ cts. here now.



Here location is every thing, men something, and hives nothing as factors in big crops.

Artemisa, Cuba, Jan. 20.

### CUBA FOR BEES AND HONEY.

#### A Favorable Statement.

BY ROBT. L. LUACES.

For some time past I have been finding articles on Cuba as a bee country; foul brood in Cuba; Cuban honey in the American markets, etc., that are sure to create the impression that bee-keeping here is bad business, and growing worse from day to day. Now, all this is not so. The value of Cuban honey exported for the six months from July 1 to Dec. 31, 1899, amounted to \$19,506. Of this, half went to Germany and half to France and the United States. These data are taken from official reports, and show that Cuban honey finds its market in Europe and not in the United States, so American bee-keepers need not fear competition from Cuba in their home markets.

In GLEANINGS for April 1, 1900, page 260, Mr. Harry Howe gives his experience in looking up a location, coming to the conclusion that these are few and all taken up; also that bees are scarce, and foul brood plentiful. On page 261 Mr. Geo. Rockenbaugh, Jr., goes on to say that Cuba as a bee country is done for; foul brood has killed it, and gives doleful accounts of prices and railroads. Mr. F. H. Somerford gives us a funny story, and sums up his experience, saying Cuba is no better than Texas.

Now, I will ask the readers of GLEANINGS to take into consideration the following: None of the gentlemen I have mentioned, according to their own statements, have been more than 30 miles away from Havana, and, of course, they can speak of the different places where they are; but it is straining a little to judge all Cuba by what small portion of it they have seen. Mr. R. forgets to say that the prices he gives are mostly in Spanish silver, and Mr. S. ought not to expect big crops from places that, from their own saying, are overstocked, overeaten by cattle, and full of all kinds of broods and worms.

I live fully 300 miles from Havana, at Puerto Principe; and the bee-keeper whom I can't show in one day's ride on horseback more good locations than he can use is hard to please. Bees don't cost here \$5.00 to \$6.00 per colony in log gums, but from \$1.25 to \$1.50 (Spanish silver). Land does not cost an enormous rental for a few yards. My apiary of 69 hives is situated 3500 meters from the city limits on half a caballeria (some 16 acres) of land that costs me in rental \$20.00 currency a year. I have never seen foul brood here, nor heard of it. Moths are plentiful, as in all warm climates. Since September 20 we here have been hard at work extracting royal-palm and Indian-vine honey, and since Nov. 1 the pure white aguinaldo (or campanilla, as we call it here), is in full swing.

This part of Cuba has always been noted as

a honey-producer; and although the late war did lots of harm, the industry of bee-keeping is fast coming to the front again; and with improved methods, hives, and extractors, we shall soon beat our own record.

Puerto Principe, Cuba, Dec. 31.

#### TWO ITEMS.

Fumigation of Queens in the Foreign Mails; Honey Candying in Uncleaned Sections.

BY G. M. DOOLITTLE.

On reaching home from my six weeks' absence in the "Sunny South" I am pleased to see that the National Bee-keepers' Association won the Uter-Uter suit, which was a *glorious victory* for our pursuit, and one which will go down to all time as a precedent to any who ignorantly or maliciously wish to attack the bee-industry. And, so far as I know, the bee-keepers have won in all litigations which have been started against them, ever since we organized ourselves into a body to show to the world that we have *natural* rights in this world as well as others. In view of these results, the strange thing is that, out of about 300,000 bee-keepers in the United States and Canada, less than 600 seem to care enough about these achievements to send in a dollar and join their names and destinies with us. Come, you 299,400 on the outside, wake up to your privileges.

But this was not what I started to write about. From some facts which have come to me lately, it would seem that the time is at hand when the N. B. K. A. can help the bee-keepers of the world along the line of a "new departure." Our pursuit would probably have never risen to the prominence it now enjoys had this country never had any other bees than the black bee of our fathers; for, in my estimation, the importation of the different races of bees we have in this country to-day (outside of the black bee) has been one of the incentives which have raised our pursuit from where it was forty years ago to the eminence it now enjoys. And, if I see clearly, there is something that stands directly in the way of any further improvement of the bees of the world by way of importing choice stock from the Orient to us, and of our exporting our choice stock over to them. All importers and exporters have found out, sooner or later, that, while some shipments of bees have gone through in apparently perfect condition, other shipments have arrived at destination *all dead*; and we have wondered at this, for, so far as we could see, the same pains and carefulness were used on the latter as on the former. A year ago last summer I was filling a large order from Jamaica for queens, sending from six to twelve a week. Up to 35 or 40, every one went through in perfect condition, when all at once one shipment went through with every bee dead. I had the cages all returned to me; and as soon as I looked at them I came to the conclusion that the mails containing this shipment had been fumigated, as the bees all had their tongues protruding.



On writing the matter up I found, as I surmised, that the mails had been fumigated at that time on account of the yellow-fever scare that was then on. As no more were lost that year I paid but little further attention to the matter, as I thought such a scare would not happen very often, and when it did I should be likely to know of the matter through the papers, so I could withhold any shipment of queens until it was over. But I am now awakened from this reverie by lately receiving word from a shipment of queens to Australia, all of which went through dead. Among other things in the letter are these words: "If there had been a chance of any of them coming through alive they were deprived of it by the process of *fumigation* which all mails coming from America to New South Wales have to undergo now;" and that this state of affairs is becoming quite common can be seen by turning to p. 242 of the *Southland Queen*, where it will be found that the Atchley Co. lost a whole shipment sent to New Zealand; and as the health officers of all countries are becoming more alert with each passing year, the mails will be fumigated more and more till our choice queens will have no show whatever in the foreign mails unless some special privileges are granted by way of a separate pouch for queens, or something of the kind.

The question now is, Can the National Beekeepers' Association take any action in this matter which will help any? or can Prof. Benton use any influence with those at the head of the foreign-mails department at Washington? Unless something is done, successful exporting or importing of queens through the mails will soon be a thing of the past.

The other item to which I wish to call attention is found in *Sray Straws*, page 43, Jan. 15, and reads as follows: "If I understand rightly, Doolittle advises, p. 16, to extract partly filled sections, and use them for bait without having the bees clean them out. Now, will there not be particles of candied honey in those sections? and will that not hasten candying in them when filled?" This part is by Dr. Miller. Then the editor adds, "It does not seem to me that Mr. Doolittle really meant this; for among practical bee-keepers it has always been laid down as a rule that unfinished sections, when extracted, should be cleaned out by the bees, else there will be particles of candied honey in the sections when they are filled the second time."

To the good doctor I wish to reply as follows: First, he understood me correctly or rightly, and I have been in the habit of thus using sections for the past 15 years. Second, there may or there may not be particles of candied honey in those sections. If the sections contained honey which would candy in the comb before spring, had not the bulk of the honey been extracted from them, the honey remaining in the cells after extracting will candy somewhat, after the extracting process. If the bulk would not have candied when left without extracting, that remaining in the combs after extracting will be free from candied particles when the baits are set on the hives. Third, after several experiments I can

not find that particles of candied honey, put with freshly gathered honey, hasten the candying of the mass, on the principle that "a little leaven leavens the whole lump." I have tried this several times, but so far have succeeded in getting honey to granulate or candy only when every thing was just right for it to do so, just the same as honey used to candy for our fathers, or before we "smarties" got to "fooling" with it. I know that some honey will candy sooner than other kinds, both in the comb and out; but so far as I have experimented I could never hurry the slow-candying kind by putting a little of the quicker-candying kind with it. Could you, doctor?

And to our good editor I wish to say that many fallacies are often indorsed by "practical bee-keepers" simply because some one has announced such fallacy to be a fact. Does Bro. E. R. Root remember when nearly every practical bee-keeper in our land was loud in "laying it down as a rule" that none but comb foundation "*fresh from the mill*" should be put in section boxes, because, if other than fresh, the bees would not work it until a part of the honey season had passed away, because the old was so hard and dry-looking? After I experimented in this matter, and announced that such a theory was a fallacy, and that foundation three years old proved to be soft and pliable looking and otherwise, just so soon as a degree of heat sufficient to work wax was brought to bear on it in the hive or surplus arrangement, and that my bees actually worked foundation from three to five years old just as readily as they did that only one week old, this old rule, "laid down by practical bee-keepers," was as silent as the grave, and has hardly been heard of since. And so will be this other, regarding "particles of candied honey in the sections when they are filled the second time," when we as candid apiarists take time to look into the matter, instead of taking for granted what is told us. Take a section of candied honey and set it in your surplus arrangement on the hive with other sections, and allow it to remain there till the rest are filled, and you will find the honey in it liquid like the rest. Quinby told us 45 years ago that combs of honey, candied solid during winter, would all liquefy during the following summer if left in the hive with the bees, the heat of the bees and the summer doing the work, and I have proven the same true time and time again; and, further, that, if put up in the loft of a building where the sun on the roof maintained a high temperature, the liquefying would be done long before fall. Now, then, as soon as those sections having particles of granulated honey in them are on the hives, and the temperature rises to a point where brood can be reared, or wax worked, they all dissolve, and the bees lick every thing dry and clean, as they always do before putting any honey in any cell. And those combs are just as free from particles of granulated honey as they would have been had the bees licked them dry the fall before; at least, reason and *experiments* covering almost a score of years tell me that such is the case here in Central New York; and as for the

honey in such sections candying any sooner, no matter whether licked in the fall or in the spring, than does the honey in those filled from starters of foundation, or those filled with foundation, years of close observation has failed to show any difference. Therefore I adhere to using all partly filled sections again, instead of destroying them, as was the common advice a decade ago, and placing sections in the supers as baits from which the honey has been extracted, without giving them to the bees to clean up, other than what they do after the sections are put on the hives for the next season's crop. And I advised accordingly, as the labor thus saved is an item worth looking after. If any disagree, all they have to do is to give the matter a thorough trial, and then govern themselves accordingly.

Borodino, N. Y.

[Yes, Mr. Doolittle, I remember how you were almost alone at one time in asserting that old foundation was as readily worked by the bees as new. At the present time there are very few bee-keepers, who are familiar with recent literature pertaining to the industry, who would pay half a cent difference for new foundation over old. But your *other* statement about unfinished sections—well, if it came from any one but you I should be inclined to say he was wrong—all wrong; and even now, in the face of evidence that I have listened to at the various conventions I have attended during the last three months, I can not help feeling that you are mistaken for once, even admitting that you have been a pioneer sometimes in dispelling and showing up the fallacy of old exploded beliefs and notions. If there is any one thing that comb-honey producers have come to regard as an accepted fact, it is, that it is poor policy to place in supers unfinished sections containing honey of the previous year except for baits. They have insisted that it was their experience, so far as I can remember, that such sections, when finished, were inferior-looking in the first place, and very apt to have candied honey; and now for you to come in and pronounce this a heresy—well, I will keep still until I can gather fresh ammunition. In the mean time, let us have short pithy reports on this matter. Our space is getting to be so crowded that we can not just now find room for a dozen or so long articles on this subject; but as long as Doolittle stands sponsor for the statement that unfinished sections of the previous year may be used and still furnish, when finished, a good grade of comb honey, we must think an experiment; for if he is right, then we are throwing away dollars and dollars; and if he is wrong, let us bury him out of sight with evidence.

Regarding the mailing of bees to foreign countries, Mr. D. has probably discovered the real cause of all the bees arriving dead at certain times when at other times they would go through in good order. This may be a proper subject for the National Bee-keepers' Association to take hold of; but we know how difficult it is to get something from even our own government, and we know it is more difficult

to get a concession from a foreign government, especially when the interests of bee-keepers in the case in question are so small. Mr. W. S. Pender, of West Maitland, Australia, did, however, secure a very important concession, in that bees might go to Australia, not at letter rates, but at parcels-post rates. Mr. Pender is the editor of the *Australian Bee Journal*, and doubtless he can interest himself in a matter that is to our mutual interest. If he will "pull the wires" on the other side we will "pull the strings" on this side; at all events, I have this day, as President of the N. B. K. A., written a letter to our Postoffice Department, asking if some special provision can not be made by which bees will be exempt from fumigation while in transit.—ED.]

#### EXTRACTED HONEY FOR THE POOR.

Relative Cost of Glass and Tin in Four and Five Pound Lots for Honey; a Strong Plea for the Small Glass Package; Fowls out after the Owl.

BY CHALON FOWLS.

No doubt but ye are the people, and wisdom shall die with you, but I have understanding as well as you. JOB 12: 2, 3.

Notwithstanding the alleged foolishness of those who put up honey in glass (according to Mr. Aikin's article on page 955), I will attempt an answer in behalf of the many foolish fellows here in the East who put up honey in that way. As I see it, Bro. Aikin's benevolence gun is aimed too high. He should commence nearer home. He says his sympathies are with the poor laborer. Me too; but, hold on. "Charity begins at home;" and the kind that would cut down the meager wages of the bee-keepers of our land, and give it to other laborers, I should call misdirected. Mr. Aikin moralizes at considerable length, trying to prove the foolishness of those who persist in buying articles put up in glass; but that need not trouble us. We should try to supply what the *buyer wants*; and, as mentioned in another article, my experience has been that they want honey in glass in preference to tin, even at a higher price. In fact, liquid honey in glass has practically driven candied honey in tin out of the market, excepting the five-gallon square cans as sold at wholesale.

At the Chicago convention, President Root reported that a number of prominent producers are now bottling their own product. Of course, this means they think it will sell better this way than candied. Now, I will leave the readers of GLEANINGS to judge whether these people "are decidedly lacking in push and business ability." While I may be lacking in these requisites it strikes me that it takes more "push" and a higher order of "business ability" to build up such a trade as Mr. Selser has at his prices than to sell in a crude condition at half price, or at the price of sugar.

Again, Mr. Aikin tries to make out that I am cheating my customers in that I am making them pay for a worthless glass package



with the honey. Not a bit of it. I am giving them a more useful package than he is, and fully as cheap in proportion to the size. He says his 4-lb. pail costs from 5 to 7 cts. each, while one-quart Mason jars holding 3 lbs. usually cost here less than 4 cts. each; and half-gallon jars about 5 cts. There is no question as to the relative usefulness of the two, in this locality at least, for good self-sealing fruit-jars are always in demand; but lard-pails are not sold except when filled with lard or other shortening, and they are often seen in rubbish-heaps where they have been thrown away. It may be said that some people use square bottles that are worthless after the honey is used; but Aikin should turn his gun upon them instead of me. Some of his statements I can heartily agree with. He says, "display can

paying out. We see the same thing with other things. A grocer could sell but little candy if obliged to sell in 5 or 10 lb. lots. The people want 5 or 10 cents' worth at a time, and are willing to pay more than pound or five-pound rates for it too.

And now at the risk of repetition I wish to say that all this talk about cheap honey for the masses, honey at the price of sugar, etc., is a direct blow at the interests of the honey-producers of our land. Choice honey is a luxury, and must always remain so, for the reason that its flavor comes from the flowers, and must be gathered by the bees, and can be got in no other way. Of course, I know of grades of honey must be sold cheap, but they should be classed as cooking honey, and not put up for table use at all.



What in the world does our Colorado friend mean when he says it would be "more honorable" (putting up so it could be sold low)? Does he mean that putting up liquid in small packages, making more cost, is thus making it a luxury, and that it is less honorable to produce a luxury than a necessity? If he means that, I'll tell Dr. Miller that Aikin hints that raising and selling comb honey is dishonorable. And now until I am convinced that it is dishonorable to offer a luxury for sale, I shall probably still continue to bottle choice honey in the best style I know how, so as to supply the demand

for something that is nice, and looks nice too. But I see by the cartoon on p. 976 the kind of trade that Aikin wants to get; and when he comes to Oberlin with his cheap methods, cheap goods, and cheap prices, he will get the cheap trade, and the Buckeyes will call his store, "Aikin's Honey Racket Store."

Oberlin, Ohio.

#### THE RELATION OF BEES TO FRUIT.

Why Some Fruit Bursts Open; a Valuable Series of Experiments Conducted by the Connecticut Board of Agriculture.

BY H. L. JEFFREY.

Mr. Aikin speaks of putting up his honey in large packages so that it is a rare thing; for him to sell single pounds. While that may do for him, it is certainly the wrong policy here. Choice honey is regarded as a luxury, and rightly, too; and after the necessities are bought, such as flour, sugar, etc., the people want a chance to buy a few cents' worth of some delicacy; and it's not "How much honey can I get?" but, "How cheap can I get a little?" They don't regard the quantity they are getting as much as the money they are

In GLEANINGS for Oct. 1 I notice the mention of the Utter v. Utter case, and I will give you two or three points brought out by my research for our Connecticut Board of Agriculture. Because of complaints in Connecticut to the Board of Agriculture about the damage to peaches and grapes by bees in 1881, I was requested to investigate the subject for the benefit of the Board. Not only the damage but the benefits done by the bees was to be looked into with thoroughness, and a report to be given when called for. I have been studying the pros and cons to this day. The work was entered into with a will, with a co-operation on all sides. Mr. J. H. Hale, of South Glastonbury, furnished me with quite a variety of strawberry-plants; also raspberries,

grapevines, and peach-trees. Mr. P. M. Auger, State Pomologist (now deceased), also contributed trees and plants, while alive. A great many yards of cheese-cloth and mosquito-net were used to cover trees and plants while in bloom to keep the bees away from the bloom to find out what the benefits were.

This part of the work showed two strong points. They were very conclusive evidence on the relative merits of varieties. A list would take up too much room.

Some varieties fruited to the extent that it would furnish material to argue that berries would set crops of fruit without the aid of the bees, and other varieties would not set even the apology of berries when covered up, and it was just the same when cultivated under glass. The Early Alexander peach is a very strong evidence of the need of the bees, and others that will set fruit without the aid of bees gave very strong evidence that the varieties by which they were fertilized very strongly influenced the flavor of the fruit. Very sweet varieties of strawberries, when fertilized by the sour varieties, furnished fruit with better shipping and keeping qualities, in quite a good number of varieties. All these tests were made on a variety of soils and in different places.

The influence of a rainy time after a very dry time in a great many instances caused the juice of sweet varieties of both peaches and grapes to force the juice out through the pores of the skin at the stem. This caused the bees, during the scarcity of honey, to collect the juice that was forced out around the stem.

In such very thin-skin varieties of peaches as the Mountain Rose, and most of the very sweet white varieties, I have seen a good heavy shower that came just at the right time as the fruit came to maturity, and a few hours of very bright sunshine caused the pulp to expand so that the skin cracked in places, and the bees would gather the juice. The bees were not alone in these depredations, but were helped by the wasps and hornets. These peaches that were by the laws of nature, and uncontrollable by man, put in a damaged condition, would not be of any practical value to ship or for any thing else except immediate use. That such results were produced in the way mentioned was proved in localities where a hose and irrigation could be resorted to under quite similar circumstances to test the evidence apparent from natural causes.

With varieties of grapes that were of the more tender-skinned and sweet varieties, such as the Green Mountain, Moore's Diamond, and the varieties having foreign blood, like Rodger's Hybrids, quite often a thorough soaking of the soil would make a separation of the grape at the peduncle, or stem, so that the juice oozed out. In some cases cutting back the green growth would cause the same result. I have also seen the same result in peach-trees when loaded with fruit, and a sudden wind storm broke down some of the branches. The roots were pumping sap to their full extent. The fruit on the remaining limbs could not properly appropriate the sap, and that caused the bursting of the skin or the

stretching of it till the juice oozed through the pores, making it an easy prey for the wasps, hornets, and bees. Cases like what I have given are so numerous in the memoranda of the 19 years of research, that, were I to give you one out of a hundred, it would more than fill one copy of GLEANINGS. Even Mr. James H. Hale, probably one of the very largest peach-growers in the world, has published, over his signature, that, even if he positively knew that bees did destroy peaches, he would not resort to legal redress with a bee-keeper, because he knows, or thinks he knows, his indebtedness to the bees for their work of fertilizing the bloom.

Woodbury, Conn., Nov. 30.

[These experiments are exceedingly valuable, not because the results found were new, but because they confirm a long line of other experiments that have been conducted at various times and places. I think we may set it down as a fact that the most progressive fruit-growers are very warm friends of the bees, because they know and realize the valuable service they render in spring, when no other insects are about. The statement of Mr. J. H. Hale, in the last paragraph, is very important, coming as it does from one of the largest fruit-growers in the world.—Ed.]

#### RETAILING HONEY.

A Disturbance Among the Fowls and the Owls.  
The Package Question: Retailing without Packages.

BY NIGHT HAWK.

*Mr. Editor:*—In GLEANINGS, page 14, you have announced your conclusion to keep out of the pie to avoid "dreaming of owls, fowls, and all kinds of night-hawks." Were you "ludin' at" me when you refer to night-hawks? At any rate, I am anxious to have a hand in this pie contest, whether chicken-pie, owl-pie, or Harry Howe's favorite pumpkin-pie.

The arguments between our friends, Aikin and Fowls, nicely show the best side out for each of the methods. One wishes to sell large quantities at as low figures as possible to increase consumption near home, packing in low-priced packages, etc. The other takes extra care to get his honey into the most attractive shape, which means high prices at retail, and a cut-down of amounts consumed per capita.

You say both are right for their localities—meaning, I presume, with their own quality of honey; but how would our owl man fare in Oberlin, using his methods with the same honey that the good brother Fowls makes the consumer pay 25 cts. a pound for? Aikin could buy for 10 cts. if Fowls can, and deliver it in the cheap package for 12½ cts. Then the question would be, "Will Oberlin people pay two prices for the sale of the fancy glass bottle and red ribbon?" If they will, they are built on different lines from Pennsylvan Dutchmen; and if the good Oberlin brother



should go to Colorado with his plan he would not sell a bottle—would know better than to try it.

This becoming accustomed to one kind of honey, and not liking any other, is a factor to be taken into consideration by the honey-salesman, as I have found out to my cost. In this neck of the woods I am selling, on the average, ten pounds of good old candied black buckwheat extracted to one of fancy white—a very fine article too.

The package question was the sticker, but it has been solved so easily! and I don't object to giving it away to the bee-keeping fraternity. As you know, Mr. Editor, I always was generous that way, and so here it is: No package at all, for I can sell more honey without packages than with. How? I just take my samples into the first house I come to, and ask for a dish to give them a sample of fine honey. The lady wishes to know the price, of course. The price is, say, 12½ cts. per pound; but if she will furnish a pail to bring it in, and take ten pounds, it will be only a dollar. That is a very "fetching" plea to start in with; but after getting half a dozen pails to carry, there is an added force to it. The neighbors all think it a good bargain, as that array of tinware testifies. If some one doesn't happen to have the pail, as a special favor I promise to deliver it in a paper oyster-pail—ten pounds, pail and all, and that's about the cost—ten cents per pound for the paper package, and it works all right.

There you are, Mr. Editor, and I hope it may help some bee-keeper to dispose of his crop to advantage, and also give some lover of honey a chance to obtain the purest and best sweet known to mankind, at a reasonable price, without being obliged to pay for any "fancy fixin's" or unnecessary commissions. Sarpe, Pa.

[Your plan of selling is similar to that employed so successfully by Dan White, of New London, Ohio. He sells all he can produce, and more too.—ED.]

#### OLD COMBS FOR BROOD-REARING.

Should Old Combs be Thrown Away, and New Ones be Drawn from Foundation?

BY W. T. STEPHENSON.

On page 908 Dr. Miller, referring to an item in the *Review*, written by me, in which I describe combs 12 years old as being considerably less in diameter than new comb, says that he has combs 25 years old, and yet the cells are no smaller, so far as he can see. In writing the item for the *Review* I put the adverb "least" before "12," but the printer failed to put it in. These combs may have been older than 12 years, for aught I know. I will describe more fully. I bought the colony from a neighbor some years ago. The hive was badly dilapidated then, and the combs had been transferred from, may be, a bee-tree, to that hive; so those combs are possibly 25 years old or more.

Dr. M. says his side walls (of the cells) were not perceptibly thickened after having 25 years' accumulation of cocoons plastered on them. The comb I was speaking of had the side walls thickened, and that to no slight degree. Indeed, there were cocoons enough on the inside of the cells to make them perfectly round. The cells looked like so many gimlet-holes. Well, doctor, it's too bad; but I melted those remarkable combs into beeswax last season, but (believe me) if I had any of it both you and Mr. Root should have a piece to examine and see if the septum had eight or ten layers of cocoons where the sides have one or two.

I melted the comb in a solar extractor, and after the wax was all rendered the shape of the cell was still perfect. The outside or first cocoons were the shape of the cells; and little by little, as more were added, it became round.

Mr. Editor, you suggest that, if the diameter of the cells becomes too small to suit the bees, they will remove the cocoons from the sides of the cell and leave the septum until it accumulates eight times as many cocoons. I thought you said that bees' mandibles were not suitable for biting skins of fruit. If so, how are they going to bite through the cocoons? They are surely slicker and tougher than any peach. You might say they would commence at the top of the cell; but I don't believe their mandibles are delicate enough to separate the cocoons from the sides of the cell. Why is it that the bees would peel the cocoons from the sides of the cell and leave the septum? Do you think it is desirable to the bees to have cocoons on the septum?

Besides the toughness and slickness of the cocoons, the concave shape of the cells, it seems to me, would be quite a drawback. To prove what I have said in regard to old combs producing smaller bees, I will say that I have transferred the colony spoken of, and the bees are a good deal larger than before..

New Columbia, Ill.

[It is very easy for one to draw wrong conclusions and wrong inferences; and especially is this true, it seems to me, in the case before us. You say that the comb that you were speaking of had the "side walls thickened, and that to no slight degree;" that there were cocoons enough on the inside to make the cells perfectly round. Now let me ask, Did you count the cocoons in the side walls or did you take a micrometer and measure the thickness of the side walls in some of these old combs, and also the walls of combs, we will say three or four years old, and in which brood had been reared as many seasons? If you did not then you might easily be deceived. To depend on the eye alone is too much like guesswork.

You say the cells look like so many gimlet-holes. So do those of any brood comb, even if it is not more than three or four years old. The bees generally thicken the top edges, making a circular rim, giving the cell itself the appearance of a round hole.

You did not, so far as I can see from what

you have written, take out the cocoons and count them one by one. This I did in the case of the comb Dr. Miller sent me, which was 25 years old, and the cell walls were not thicker than those of ordinary comb, nor were there more than two thicknesses of cocoons in the walls. If the bees kept on packing in cocoons, and every cocoon was left in for 25 years, those same cells would hardly let in an ant, to say nothing about letting in a bee.

You refer to melting up these old combs in a solar wax-extractor. Any comb, even if it be not more than three or four years old, when melted under such conditions, will show the perfect shape of the cocoons after the wax is melted away.

I did say that bees' jaws were not suitable for biting the skins of fruits, and I still adhere to the statement. While the bees seem to lack the power of biting through chitinous substances, yet they will unravel and pull to pieces any filament or fabric just as we can with our fingers unravel and pull to pieces the strongest hemp rope if we take time enough. If you will examine under a strong magnifier the filament of a cocoon you will see it is made up of a web. These individual webs can be easily unraveled and pulled away by the bees, and it would be a very easy trick to remove the cocoons in that way. But the skin of a peach or grape has quite a different texture and surface. Nothing short of cutting instruments would pierce them.

Again, you say that, after you removed the old combs and put in new ones, the newly hatched bees were a good deal larger. Let me ask again, Did you test these and the other bees with perforated zinc? and is it not a fact that you expected the bees to be larger, and hence wrongly inferred that they were larger after you saw them? I do not mean to accuse you of carelessness, and certainly not of misrepresentation; but unless one depends on something besides his eyes for gauging sizes involving differences of one or two thousandths of an inch he is pretty sure to make decidedly wrong guesses.

This is a very important matter; and if you are right and we are wrong it will be quite a point for the foundation-makers of the country. All we would have to say would be that combs would have to be renewed once in ten years, and this would mean the selling of tons of foundation where none is sold now.

I do not wish to be positive. You may be right and I wrong; but I am showing how you *might* be mistaken in your conclusions. While I am open to conviction, yet I hope you or any one else will help us to get down to the actual facts; but in the mean time it does not seem to me that Nature would make so egregious a blunder as to pinch growing bees in combs 15 or 25 years old. We are accustomed to saying that Nature works in harmony with herself; and I still believe that, when we gather in all the facts, we shall find that the useless cocoons are removed as soon as they have a tendency to reduce the diameter of the cells.

And here is one more fact: If it were true that the size of bees varies according to the

age of the comb in which they are reared, then we should have no end of trouble in the use of perforated zinc. One make of zinc that would let one lot of bees through easily, would almost if not quite bar other lots. But, so far as I know, when the perforations are  $\frac{1.65}{1000}$  wide, or a trifle more than  $\frac{3}{8}$ , in figures we can understand, the zinc answers all requirements with all bee-keepers in every climate and under any conditions. If your conclusions were correct this would be far from the fact.

I should be pleased to receive samples from any one having combs which he *knows* to be 20 or 25 years old. Mail us a piece two or three inches square. Send a card telling about the comb, its age, and, if you can, mature bees that have hatched from such comb. Let us investigate this matter without prejudice, with the simple idea of getting at the truth.—ED.]

### OLD GRIMES.

BY ARTHUR C. MILLER.

Old Grimes's not dead; that good old man  
We'll often hear him more;  
He sometimes wears an old gray coat  
All honey down before.

His heart is open as the day;  
His feelings, if you knew,  
Are oft inclined to lead astray  
His common sense of view.

When'er he hears the pipe of queen,  
His steps are quickly turned  
Into that path which we have seen  
He's "beaten" out and learned.

Kind fun he ever pokes at all;  
He lives not to malign;  
His thoughts are slow, inclined to fall  
To tools of olden time.

He lives in land of Setting Sun;  
And, though his hives are new,  
Uncaps his honey with a knife  
As "daddy" used to do.

Unharm'd by stings of bees astute,  
He stumbles gently o'er  
The hives, excluders, traps, and things  
Strew'd in that path he told of.

But good old Grimes is not at rest;  
He's heard the news from town,  
So takes his pen and does his best  
To bring inventors down.

He modest profit seeks to find  
To pay for bread and butter;  
He has no notion in his mind  
To spend it on uncapper.

His neighbors, by its proper use,  
Find decrease in their labor;  
He, giving license to his views,  
Growls "adjusting" and "excluder."

His knowledge of the modern ways  
He keeps from public view;  
But makes a noise these latter days  
Of what other folks may do.

His worldly goods he never threw  
Away on any fancy;  
He says we cut, adjust, and slice,  
With things that's quite expensive.

Though much disturbed by honeyed cares,  
And fears of tools not mellow,  
Just everybody says he is  
A jolly young "old fellow."



## RAMBLE NO. 181.

Dame Fortune; Keeping Bees on Shares; the Barber Method of Producing Comb Honey.

BY RAMBLER.

[It is with a great deal of pleasure that I announce that Rambler is to begin his series of illustrated articles which were discontinued some three years ago owing to the pressure of other duties and some changes in his plans. He is now in position to resume the series, and the first one begins where the others left off, and is given herewith.—Ed.]

"Why, Mr. Rambler! how do you do? Glad to see you. Sit down here on this hive in the shade of the fig-tree, and let's have a talk. Le'me see—it's been two or three years since I put my optics on you. But, Rambler, you look awful bad—sick, are you? No? Pushed that wheel a little too lively—sandy roads? No? Got into a scrimmage with a teamster? Hat-brim tore? No? Ran off that pesky river bridge, got lost, and came near starving on those alkali plains?"

"O Mr. McCubbin! it is worse than all that. Heigh-ho! hum—worse, worse."

"Worse? why, land alive! you didn't get run over by a railroad train? coat-sleeves ripped, pants tore—too bad—no? What! struck by lightning in yesterday's unusual thunder-storm?"

"Worse, Mr. McCubbin—worse, worse."

"Land o'Goshen! Rambler, what have you been through—a thrashing machine, a rock-pulverizer, a—"

"O my friend McCubbin! it's worse than all that—worse, worse, my dear McCubbin; I've been jilted."

"Ha! ha! Rambler. I might have known it. How sad, dejected, and how disconsolate you look! seedy as a haystack, and forlorn; too bad, too bad. But, hey now; was it a grass widdler that got away with that heart o' yours?"

"Well, now, McCubbin, that's too bad; indeed, it is a bad way to let your mind wander into such trivial channels. Why, I could stand such jilts as you speak of twice a week, and still smile. But, McCubbin, I have been jilted by Dame Fortune. You see, I worked happily and hopefully in building up a nice apiary, every thing new and up-to-date. It was located in a quiet cosy nook in the Cahuenga Hills. I could cast my eyes down the canyon, and in the distance see the restless waters of the P. c'fic Ocean, while all around me were the everlasting hills. The bluejays were my companions and regular boarders. The mockingbird mocked, and in the deep silence of the night a distant coyote would send his multitudinous carol down the canyon; but, heigh-ho! those pleasant pictures are blasted."

"You see, my friend, I had just gotten my new apiary into shape to make at least \$1000 a year out of it when there fell to our lot in Southern California two dry seasons, and now we are facing another. See, see, Bro. McCubbin, these emaciated features, these bepatched pants, these protruding elbows; and, alas! I am but a type of many bee-men in that portion of the State. But, Bro. M., I will not

complain, for I have a good share of my bees left, while many have lost all they had. These are sad years for the bee-men of Southern California. The circumstance is beyond our ken, and we lay it to the fickleness of Dame Fortune."

"Beg your pardon. I might have known that women would have paid no attention to such a forlorn chap; but if you had got that \$1000 a year you'd had to do the jilting—hey, Rambler?"



RAMBLER TURNS UP AT M'CUBBIN'S APIARY.

"Bro. McCubbin, let's talk about something more agreeable. I wish to tell you that I have again decided to try to woo Dame Fortune, and I have traveled all of these weary 250 miles, and here I am in this alfalfa country; and now what can you do for me?"

"Why, Rambler, you are just the man I have wanted to see. I am just so full of business that I can not attend to my bees, and you are just the man to do it. You see, I own a 160-acre timber-ranch a few miles north, and two fruit-ranches. In fact, I am a rancher, bee-keeper, housekeeper, painter, paper-hanger, stock-dealer, real-estate agent, insurance agent, book-keeper, honey-dealer, etc. Then you know I lost my wife two years ago, and I have these two little children to care for, and I sometimes call this my orphanage. You can

readily see that I can not do very much with bees."

"Sure enough, Mr. McCubbin. Truly you have your hands full. I think it would be highly conducive to your peace of mind to allow me to work your bees. How many colonies have you?"

"At this Reedley ranch I have about 40 colonies. I will attend to these and work them for increase. I have one of Doolittle's \$5.00 queens. You know in our raisin trade here we have the celebrated London layers. Well, in order to be up to date I call this Doolittle queen my Dublin layer, and will requeen my apiaries from her. And say, Rambler, I believe Doolittle is the best all-round bee keeper and queen breeder in America."

"Pshaw! McCubbin, do you really think so? I think you had better revise that statement a little."

"Well, I don't. I mean every word of it. Why, what have you against Doolittle?"

"Oh! not much. I was only thinking it would sound better to say he is the best all-round bee-keeper on earth."

"That's so, Rambler—that's so; that hits his case exactly—on earth. Why in time didn't I think of that? Well, as I was saying, I have 115 colonies at the peach orchard, 3½ miles south, and 105 three miles further on, in an alkali-weed patch. Now, these two apiaries, with a total of 220 colonies, are at your service. I think these, with now and then a few miles spin on your wheel, will give you all the recreation you need. And now suppose we swap ideas as to the terms of management. Now let your ideas loose first."

"Well, Bro. McCubbin, my idea is for you to let me have all of the honey and—"

"You? You have all of the honey? well, well. I must say you have an eye for No. 1. Want to make up for lost time, hey? And, Rambler, what am I to get?"

"Why, my dear McCubbin, you are to have the increase."

"Well, well! who ever worked bees that way? Did you ever do it yourself, Rambler?"

"Certainly. I worked an apiary for Mr. Wheeler, of Riverside, Cal., and the agreement was that I should have all of the honey, and make as much increase as I deemed judicious."

"But, Rambler, how many colonies did you manage that way?"

"Ahem—ahem-m-z-z-z—it seems sort of chilly under this fig-ure—le'me see—what did you remark, Mr. McCubbin?"

"Why, I want to know how many colonies you managed for all of the honey, less a judicious increase."

"Why—ahem—z-z-z-z—getting cool and cloudy: d'ye think it'll rain?"

"Well, now, see here, Rambler. I want to know how many colonies of bees you managed under those peculiar rates."

"Well, if you must know all about it, I managed one swarm, more or less—did well too; got 127 lbs. of honey, and increased to three, and it was not much of a honey year either. The same plan applied to your 220 colonies would give you nearly 700. All you

have to do is to furnish the hives, the bees, and I will do the rest."

"Now, Rambler, I think your remark more or less covers up something; but I am not going into any such scheme as that. I want honey instead of bees; and unless we can make arrangements with that in view you might as well pick up your duds and travel."

"Heigh-ho! all right, McCubbin; it is again the voice of Dame Fortune calling, 'Move on, move on.' I am so used to that command, it seems as though my weary limbs would never find rest. But, see here; you have not let any of your ideas loose. I am listening."

"My ideas will be few and to the point. When I rent or let an apiary I do not believe in making a complicated contract. I give the lessee half of the honey, each party to furnish his own packages for the honey. I must have all of the increase, and will provide hives for the same, the lessee to make as little increase as he deems judicious. How does that strike you?"

"Why, it strikes me as would a fountain of ice-cold soda on a hot summer's day. Your plan is about the one I have operated in the past; but in addition to half of the honey I must have half of the wax. That is quite an item sometimes. I have known bee-keepers to ignore this very important product, and allow scores of pounds to go to waste. The careful bee keeper saves every scrap of old combs and scrapings of hives and frames, and in so doing he adds to his revenue. I am pleased with your 'judicious increase' provision, for it must be understood that, when I work bees for extracted honey, I will so manage them that but few swarms will issue. If you wish to make a considerable increase by natural swarming I should have something for hiving the swarms. I know of parties who have received fifty cents a swarm for such work."

"Rambler, I am not anxious for increase; therefore, if it is agreeable to you we will fix the terms at half the honey and half of the wax, and go it as light as you please with swarms. Furthermore, I have a few supers with sections I had left over from last season, which I should like to work in, and I think it can be done without interfering with the swarming. The way I manage in the production of comb honey is to put on the extracting-supers; and when the bees get vigorously working in them I take them off and put on the comb honey supers, and the bees just fill the sections in no time. You observe the sections are in broad frames, double tier, and occupy the same space as the extracting-super."

"Why, Bro. McCubbin, that is Mrs Barber's plan as she described it in GLEANINGS. Did you learn it from her?"

"Oh, no! I have practiced that plan for several years, and I believe Mr. Brodbeck, of Los Angeles, told me some time ago that he indulged in such practice. I think the idea has been mentioned in print; but you see it has taken a lady to make the idea attract attention."

"But, see here, McCubbin. It seems to me

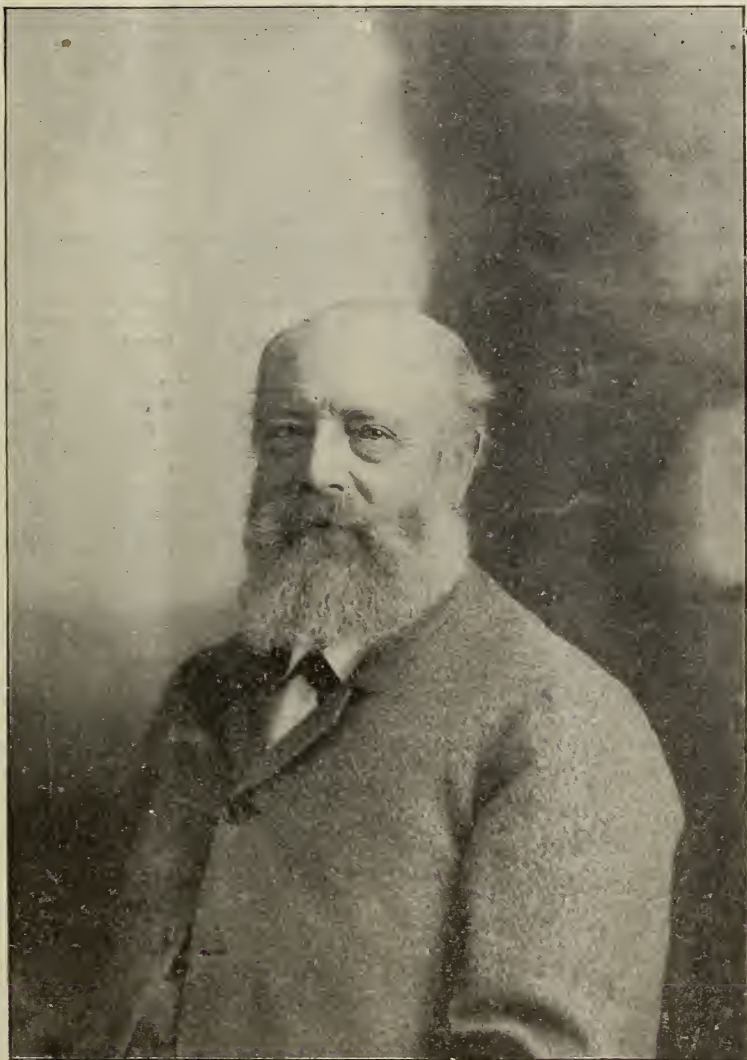


you use rather thin sections— $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{2}$ ; are they not short weight?"

"They are a trifle short; but you see I use no separators, and get better weight on that account; and then grocers sell them by the piece and not by the pound. But this is the last lot I have; and since I am letting my bees on shares, and the lessee, like yourself, for instance, desires to work for extracted honey, I

INGS; but it seems that comb honey is passing in Central California. Five years ago nearly all of your bee-men were for comb honey, and now I find the extractor in almost universal use."

"Yes, that is so. Our best comb honey has a dark tinge, and will not sell so well as the white grades. We have a ready sale for our extracted honey, and last season dealers were



J. B. HALL, WOODSTOCK, ONTARIO, CANADA.—SEE EDITORIALS.

*Courtesy of American Bee-keeper.*

shall have to comply with the new order of management. But I tell you, Rambler, I love to work for comb honey."

"That is evident from your fixtures; and I remember that photo I secured of yourself and your comb honey some six years ago at Selma, and which made a fine illustration in GLEAN-

ings around after our product, and it sold at a good price. Oh, no! it was no trick at all to sell honey last year. But, Rambler, you look awful hungry. Come right into the house and we will have some supper. Here, Bruce and Grace, pick up all these things you have on the floor. Children must play, you know,

and I let them have full swing here in the house with my bee-hive material. Now, Rambler, how would a few pancakes strike you?"

"Bro. McCubbin, I'm speechless."



#### COLONIES OF BEES FREEZING TO DEATH.

"Good morning, Mr. Doolittle. Pretty cold outside this morning."

"Yes, it is, neighbor Smith. Take this big rocking-chair and draw up by the fire."

"Thank you, I will do so. And now I want to talk a little while with you about bees freezing to death."

"I am agreeable. But what set you to thinking about this matter?"

"This awful cold, after reading last night in an old bee-paper that some thought that bees froze to death, one writer asserting that any one who has handled bees knows that too cold weather makes them perfectly stiff and apparently lifeless."

"Did you believe what you read?"

"Well, enough so that I went and looked at one colony, and I found them apparently lifeless, as he said they would be. But this colony was in a single-walled hive, and the writer in the paper said that if bees were in other than thoroughly packed chaff hives they should be taken to warmer quarters if zero cold lasts longer than four or five days, else they might freeze; and this is why I came over this morning. Would you carry these bees into the cellar?"

"It would have been a good plan to carry such colonies as were in single-walled hives into the cellar from the middle to the latter part of last November; but I consider that which you read as fallacious, and think a little talk over this matter will convince you that there is nothing in the matter further than theory."

"I am glad to hear you say this, as I had no place where I could put the bees just now. But why should bees not freeze when other animals, which are poorly protected, do so?"

"While it is possible to freeze nearly all animal life by exposure to a very low temperature, the bees seem capable, with plenty of stores near at hand, to stand any amount of cold so long as food remains within easy reach."

"But I saw some bees in the hive I opened this morning, on the outside of the bunch of bees, that were so stiff they did not wiggle when I poked them with a lead-pencil."

"To be sure, the bees on the outside of the cluster may become somewhat stiffened with cold; but those within are nearly as brisk and lively as in summer."

"What proof have you of this assertion?"

"M. Quinby, than whom there is no better authority, knew this to be a fact when he said in his 'Mysteries of Bee-keeping Explained,'

that the bees inside the cluster, on a zero morning, could fly as readily as in July, should the cluster be thrown apart. Mr. Quinby wrote this more than 35 years ago."

"Well, suppose the zero weather had held on four or five days, that being the length of time the writer allowed in the old bee-paper."

"This part was made very plain by that veteran bee-keeper of thirty years ago, Elisha Gallup, now of California. When speaking of a winter in Upper Canada he says, 'the thermometer for sixty days in succession was not above 10° below zero, and for eight of these days the mercury was frozen; yet my bees, in box hives, with a two inch hole at the top and the bottom, plastered up tight, came through in excellent condition.' This you can find in Vol. V. of the *American Bee Journal*, page 33, unless my memory has given me the slip."

"Whew! Mercury frozen! That is ahead of any thing we ever get here, is it not?"

"Yes. But while bees here in Central New York were never put to so severe a test as the above, yet, a few years ago, the mercury went as low as 37° below zero; still, so far as I could see, it did not affect the bees in the least."

"How can they resist such cold?"

"By eating honey, or 'burning it as fuel,' as one writer puts it."

"I wonder how much heat they can get up in that way."

"From experiments conducted with a self-registering thermometer I have found that when it is 20° below zero in the outside air, a temperature of 46° above zero is maintained within the hive close to the outside of the cluster of bees, while the center of the cluster gave a warmth of 63° at the same time, showing that they were far from freezing."

"Well, I declare! Have you made any other tests?"

"To test more thoroughly this matter of bees freezing, I took a colony one evening when the mercury stood at 10 below zero, and suspended the hive about two feet from the bottom-board, taking off all covering from the top of the hive, so they were the same as if hung in the open air, as the colony was so small that it did not touch the hive at any point. They were left thus all night, during which the mercury went as low as 16 degrees below zero, yet the next morning the bees were all right, though I really expected to find them dead. Since then I have come to the conclusion that the freezing of a colony of bees when in a normal condition is an impossibility, and that the finding of bees dead and frozen only proves that the freezing was an effect coming after death produced by some other cause than zero cold, such as starvation, bee-diarrhea, caused by long confinement, etc."

"But you would not advise swinging all colonies from their bottom-boards during winter?"

"No, sir; and I would advise putting all colonies in *this section*, or north of 40, north latitude, into chaff hives, or into the cellar during winter, as they winter much better



that way, even though they never freeze to death."

"How time has flown! It is time I were doing my noonday chores. Good morning."

"Good morning. Come again when you wish something further."

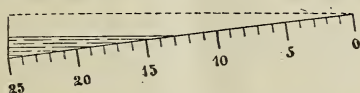
[We have never found a cluster of bees dead unless the food supply had been eaten away from the cluster for two or three inches. I reason that the outside of cluster becoming chilled stiff prevents the cluster from moving over to the stores, and hence they starve to death. But we must not infer that, because bees can stand cold, they do not need any protection. They should have plenty of it.—ED.]



#### HOW TO MAKE A GLOSSOMETER.

I think Dr. Miller has hit on the right principle in the construction of glossometers. The figure here represents a cut of such an instrument as I would construct.

The dotted line shows the wire cloth. The depth at one end should be  $\frac{1}{4}$  inch, decreasing toward the other end to nothing. The



bottom should be divided by well-marked lines across in 25 parts, as shown in the scale under the cut of the instrument. The wire cloth should be straight, and for that purpose the instrument should not be more than  $\frac{3}{4}$  inch wide inside, otherwise bulged places in the wire cloth could not be avoided.

Put the instrument in an empty super on the hive; fill it with syrup or honey; level it, which is easily done by observing whether the syrup is flush all over with the cloth.

When the bees have helped themselves to all they can take, note, before disturbing the instrument, to which division the remaining syrup reaches. If it reaches to the 17th division, as shown in the cut of the scale above, the length of their tongues, or at least the space between the wire cloth and the level of the syrup, would be  $\frac{17}{100}$  inch.

The above is merely an illustration of the principle. For instance, the deeper end might be  $\frac{3}{100}$  inch instead of  $\frac{1}{4}$ , and the other end  $\frac{10}{100}$  instead of nothing. The divisions would then read from  $\frac{10}{100}$  to  $\frac{25}{100}$  instead of from 0 to  $\frac{25}{100}$  of an inch.

With the longer-tongues subject, the size of bees will necessarily be brought out again; for the maximum length of tongue that can

be reached will be greater in the larger strain of bees.

ADRIAN GETAZ.

Knoxville, Tenn.

[Dr. Miller proposed something like this a short time ago. While the principle is all right, yet I doubt very much whether you could get the measurement as easily and quickly as by the way I have described in GLEANINGS. Of course, it might show more exactly the actual reach of the bees. In the matter of breeding, it is not so important to know the actual reach as it is to know the comparative length of tongues between the bees of one queen and the bees of another. Those of you who believe in that kind of glossometer, make one and send in your report; but in the mean time I think I can measure ten lots of bees while you are measuring one lot. Sometimes we have four or five cages to measure in a day, from bee-keepers in different parts of the country; and if we were to use a plan like that shown above, it would make an all day's job, where now the work can be done inside of an hour; and for comparative results it is just as good.—ED.]

#### RELATIVE WEIGHTS OF TALL AND SQUARE SECTIONS WHEN FILLED WITH HONEY.

I wish to run one of my apiaries this coming season for comb honey, and will you kindly assist me in deciding what to adopt by answering the following questions?

My preference is the plain tall section, one holding a guaranteed pound, or a little over, but not less.

1. Will the Danz.  $4 \times 5 \times 1\frac{3}{8}$  section meet this requirement?

2. Will the Danz.  $4 \times 5 \times 1\frac{3}{8}$ , when filled, average as heavy as the  $4\frac{1}{4} \times 4\frac{1}{4}$  old beeway section?

3. How would the  $5 \times 4\frac{1}{4} \times 1\frac{5}{8}$  do? Can you furnish them, also cartons for same? What super can they be used in, 10-frame size?

CHARLES STEIGER.

Spring, Ill., Jan. 18.

[1. It depends on how full the sections are filled. Unless they are completed clear out to the wood, nearly every cell sealed, they will fall short about an ounce of making a pound. All the so-called pound sections are scant pounds. There is no market that seems to want a section that runs a little over. Every salesman says he would prefer to have the box run a little under rather than a little over a pound. If you desire a  $4 \times 5$  section to average a pound year in and year out, with the seasons as they run, cells sealed clear out to the wood, the sections should be  $1\frac{1}{2}$  in. wide, but then you would be troubled with over-weights so much that the trade would object.

2. Yes, the regular Danzenbaker section will average as heavy as the  $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{8}$ ; or, in other words, if the old-style  $4\frac{1}{4}$  section with beeways was heavy enough to meet your requirements, then the Danzenbaker  $4 \times 5 \times 1\frac{3}{8}$  will be.

3. The  $4\frac{1}{4} \times 5 \times 1\frac{5}{8}$  would run altogether too heavy—over a pound. If you adopt a  $4\frac{1}{4} \times 5$  better have it  $1\frac{1}{4}$  in. thick, then you

would not be troubled with over-weights. Yes, the  $5 \times 4\frac{1}{4} \times 1\frac{3}{8}$  or  $4\frac{1}{4} \times 5 \times 1\frac{3}{8}$  can be furnished by us or any of the manufacturers. The  $1\frac{3}{8}$  inch sections of our  $4 \times 5$  or  $4\frac{1}{4} \times 5$  can be used in any ten frame super, providing the right section-holders are used, and providing, too, those ten-frame supers are deep enough. We make super arrangements for both.—ED.]

#### RELATIVE WEIGHTS OF VARIOUS SIZES OF SECTIONS WHEN FILLED WITH HONEY.

In reviewing the last volume of GLEANINGS I find on page 357 your estimates in regard to different sizes of sections, also Dr. Miller's average weights. I was a little curious to know how the  $3\frac{3}{8} \times 5 \times 1\frac{1}{2}$  compared in weight; so, having two crates of 24 sections each of buckwheat honey I weighed them and found that the crates weighed just alike, 21 lbs. each, net, which would make 14 oz per section. That makes .17 more than Dr. Miller's  $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{2}$ . Now, as the Danz., or  $4 \times 5 \times 1\frac{3}{8}$ , figures out only  $\frac{1}{3}$  of a cubic inch more than the  $3\frac{3}{8} \times 5 \times 1\frac{1}{2}$  I can not see how it is going to hold very much more.

Your estimate of  $\frac{7}{8}$  oz per cubic inch agrees with my weights of the  $3\frac{3}{8} \times 5 \times 1\frac{1}{2}$  as well as Dr. Miller's  $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{2}$ . If we figure the  $4 \times 5 \times 1\frac{3}{8}$  on the same basis it would weigh 14.3 oz. I do not know what the majority of bee-keepers like best, but my preference would be for a section holding as nearly one pound as possible.

Suppose you use a section  $4 \times 5 \times 1\frac{1}{2}$ ; that would give 26.718 cu. in.; if we allow  $\frac{7}{8}$  oz. per cubic inch it would give 15.58 oz. of honey. Such a section would work in an eight-frame super all right by using the Danz. holder and cleat, using 6 rows of 4 each, the same as the  $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{2}$ .

I believe that, the nearer we come to selling what we pretend to sell, the better. When I am selling butter in 1-lb. prints I would not think of selling my print for 14 oz. I know I should be the loser by so doing, as my customers would look up another man who would give them full weights. The simile is not well drawn, as we can make the 1-lb. print of butter exact, but can not the 1 lb. section of honey. If the  $4 \times 5 \times 1\frac{3}{8}$  when well filled, hold 16 oz., that is all that is necessary. But, do they?

Since I commenced to write this I thought I would see if there was any difference in the weight of buckwheat and basswood. In selecting several boxes of each as near the same as possible I found that the buckwheat gave quicker weight, about  $\frac{1}{2}$  oz. This does not prove that the buckwheat was heavier, however. The weights stood 14 oz. light;  $14\frac{1}{2}$  oz. dark.

On page 53 S. J. Snyder reports 60 lbs. extracted buckwheat. My bees averaged 31  $3\frac{3}{8} \times 5 \times 1\frac{1}{2}$  sections, and filled their brood-chamber full. I had eight colonies, and there were 22 acres of buckwheat in reach of them.

W. W. SHEPARD.

Wayland, N. Y., Jan. 23.

[You will find many of your questions answered in the footnote to Charles Steiger's ar-

ticle just preceding; and in addition I would state that we figure to have the  $3\frac{3}{8} \times 5 \times 1\frac{1}{2}$  plain hold approximately the same amount of honey as the  $4\frac{1}{4}$  square by  $1\frac{1}{2}$  or the  $4 \times 5 \times 1\frac{3}{8}$  plain; but in actual results there is a slight difference. The  $4 \times 5$  runs a trifle heavier, while  $3\frac{3}{8} \times 5$  and the  $4\frac{1}{4} \times 4\frac{1}{4}$  both run about the same; but the  $4\frac{1}{4}$  plain and the  $4\frac{1}{4}$  beeway section ( $1\frac{1}{2}$  wide) do not hold exactly the same amount, the beeway holding a trifle more.

Referring to the weight of different kinds of honey, there may be a difference. The buckwheat honey that I have seen in New York is, as it is extracted, very thick, and, for the same cubic contents of comb, I should suppose it would run a little heavier than clover or basswood.—ED.]

#### UNFERTILIZED EGGS AND DRONES.

1. What good reasons have we to believe that the unfertilized egg produces the drone?
2. Why is it that a colony of bees rarely ever makes any comb during dog days?
3. Does a colony ever winter drones? If so, why?

JAMES L. FRANKLIN.

Redbush, Ky., Jan. 13.

[1. The long series of experiments conducted by Dr. Dzierzon went to show conclusively that the unfertilized egg produced the drone. Further than that, every-day observation shows that virgin queens and laying workers, if they lay at all, lay eggs that produce drones; but even then it might be said, "How do we know that those laying workers and virgins had not been fertilized?" There are plenty of cases where virgin queens without wings have laid eggs that produced only drones.

2. I do not know exactly what you mean by "dog days," but I presume you mean during August, when little or no honey comes in. Comb-building never takes place unless there is a supply of food coming in from feeders in the hive, or from natural sources in the fields. The answer to your question, then, is that comb is not built because there is no incoming of food.

3. Yes, but not generally. There are liable to be in any strong healthy colony a few drones that are wintering over.—ED.]

#### QUESTIONS FROM A BEGINNER.

1. Can a reason be given why one colony will store well in a super, while an adjoining colony does not and can not be induced to go into the super, colonies apparently equal? In one instance they were working well in the super and suddenly quit work.

2. Do you recommend destroying queen-cells with the object of preventing swarming? Is not this practice liable to result in queenless colonies? Several colonies on which this was practiced became queenless, though I can not tell definitely the cause.

3. What is the approved practice in increasing colonies and preventing swarming?

4. When is the best time to queen?

5. When is the earliest that breeders can



supply queens? or can wintered-over queens be obtained?

[1. No positive reason can be assigned, unless it be, perhaps, that one colony has bees that have long tongues, and another has those with short ones. If there is any thing in long tongues, then I should be inclined to believe that one colony had bees that were better workers, simply because they were physically able to gather honey when the others could not.

2. Yes, it is a good plan to destroy queen-cells in colonies where you desire to prevent swarming, and where the stock is such that you do not care to breed from it; but if the bees of that colony are extra good workers, and of good blood, then I would save the cells. There is not much danger of a colony becoming queenless from the practice of cutting out cells or destroying them. If the old queen should happen to fail, or go out with a swarm, there would be enough young larvae or eggs from which some cells would be reared and a queen raised.

3. There is no way except artificial swarming or dividing. Where increase is desired I would by all means prefer to get it by dividing, as being much more convenient.

4. Usually after the honey season, when queens are the cheapest. But the best time to rear queens is when plenty of swarming-cells can be obtained from good colonies during the height of the honey-flow. It is always difficult to rear queens when no honey is coming in, and I would advise the beginner, if he can not afford to buy queens, to requeen at some time in the year when honey is coming in slowly.

5. In the North, about May 15 or June 1. Breeders in the extreme South can furnish queens almost any month in the year.—ED.]

#### CELLAR WINTERING; DOES NOISE DISTURB BEES?

1. Can you tell me some simple way to remove wax from utensils?

2. If bees have their last fly for the fall on Nov. 1, how long can they be confined, and still come out alive and healthy, last brood hatched about Oct. 15?

3. About how many pounds of stores will it take to feed an average colony of bees from Sept. 10 to April 15, bees to be deposited about Nov. 15, and taken out about April 15?

4. Do you consider pollen in cells topped off with honey, and capped, as sealed winter stores?

5. My bees are in a large cellar under a house where a large family of noisy young folks live, and they have dances or parties occasionally. Will the noise disturb the bees, or will they become accustomed to it?

6. I winter my bees a quarter of a mile from their summer stand. If I take the bees out of the cellar, and haul them to their summer stand before I let them loose, will they soil the combs or the inside of the hive? or should I set them out near the cellar and let them have a fly, and haul them that night? In the latter

case, would any of the bees go back to the cellar location? GEO. F. HANEGAN.

Hersey, Wisconsin.

1. To immerse the article smeared with propolis in boiling hot water is the most satisfactory way of cleaning it. Scraping can be used, but it is at best a very messy and tedious job. Propolis on the fingers may be removed by using a little gasoline or weak lye, ether, or alcohol. The first named is the most convenient for the average bee-keeper.

2. If bees are put up properly they will stand confinement from Nov. 1 till May 1. A good deal depends, however, on the mode of packing if outdoors, the kind of cellar if indoors, or whether the hives have plenty of bottom ventilation. No definite statement on this point can be made, as sometimes colonies prepared in the best manner possible, with the best of food, will die in spite of us.

3. From your other questions I should assume that you refer to indoor or cellar wintering. There have been various figures given that ran all the way from 4 to 15 pounds as the amount of stores consumed; but I should call it good wintering if a good average colony consumed from 7 to 10 pounds in the cellar; if outdoors, we should have to add from  $\frac{1}{2}$  to  $\frac{1}{2}$  to these amounts. If the climate were very cold, and the protection poor, we would have to double the figures.

4. There is no objection to a little pollen in the combs. There was a time when it was advised to see that all combs were free of pollen. But very little attention is paid to the matter now.

5. This is a question that is a little hard to answer; but we know that bees are wintered successfully under a living-room; but just how much noise the bees will stand, I can not say; but my impression is, they will take a great deal when they become accustomed to it. But as a rule we would say the less jar and noise the better. I have been in bee-cellars, and have noticed that when some one stomped on the floor above, the bees would give forth in unison a peculiar sharp quick "z z z" sound. Then I tried shouting, and obtained the same response. Once I shouted so long that finally the bees began to come out at the entrances to see what the rumpus was; so I conclude that an excessive or unusual amount of noise upstairs, like romping or jumping, would disturb the bees, with the result that they would become uneasy, consume too much food, and thus bring on dysentery.

At this present time we are wintering some of our colonies in a cellar under our machine-shop; but there is no more noise under this room than under an ordinary living-room where there are children romping around.

6. I would advise you to carry your bees from the cellar direct to their permanent stands. I can see no object in putting them down for a fly near the house, and then moving them again. Whenever bees are set out of the cellar, they are pretty apt to void their feces all over every thing. Especially is this noticeable on snow or white clothes hung out to dry.—ED.]



CALIFORNIA had 9 inches of rain up to the morning of the 5th, which, according to a correspondent, means about 75 carloads of honey by the first of August. I suppose the Californians will be hoping that the Coloradoans and the eastern bee-keepers will have a failure of the honey crop. For three years California has had almost a total failure, and now she is to be blessed with a big crop, it seems.

At the Madison convention a good deal was said in reference to the matter of low prices during a year of large supply. Mr. E. France said it was often a good paying investment to hold honey over until the following year, especially when prices were ruling low and everybody had a plenty. One year he had 50,000 lbs. of honey. Everybody was selling it, and selling it cheap. He held his over, and next year there was a scarcity; then he unloaded his crop, and, as he said, made the "very best investment" he ever made in his life.

#### "BUT 'TWAS A GLORIOUS VICTORY."

Sum people that go to law for dammiges sumtimes get more than tha want.—*Josh Billings.*

JUST as this form is going to press I have received information that the plaintiff, or, as he is called, Fruitman Utter, has decided not to carry his case to a higher court, and he has settled by paying all the costs, which can hardly be less than \$500 or \$600. Thanks to the National Bee-keepers' Association, the defense was so strong that the other side knew there was absolutely no show for them. We met the enemy and whipped him so hard that he knew there would be nothing left of him if he attempted to put up another fight. 'Tis well. Hip, hip, hurrah for the Association! Such a victory ought to appeal to every one of our subscribers who is not a member. Send in a dollar to General Manager Secor, Forest City, Ia., and have a hand in this glorious work. There are more battles to fight, and we need your help, and—you may need ours.

#### PRESIDENT FRANCE AND THE WISCONSIN CONVENTION.

I HAVE just returned from attendance at the Wisconsin State Bee-keepers' Convention, held in Madison on the 5th and 6th. Owing to the very poor year the general attendance was not so large as formerly; but lack of attendance was fully made up in the character of the discussions and the interesting side talks by Pres. France, who not only knows how to "talk bees" but to steer discussion. Mr. France is both President of the Wisconsin State Bee-keepers' Association, and foul-brood inspector for the State. For the last two or three years he has been sent by the State to lecture on bee-keeping at farmers' institutes; and from what I saw and heard of

him I should say he was *the* right man in the right place.

#### PICKING UP ROYAL JELLY WITH A MEDICINE-DROPPER.

Mr. Arthur C. Miller, who has been experimenting in this matter, writes us as follows:

*Mr. Root:*—In your editorials for Jan. 15 you referred to the use of medicine-droppers for gathering and distributing royal jelly, and you asked if any of your readers had tried it. During last summer I made several attempts to use the droppers for that purpose, but it was a failure every time; the food would distribute itself all over the inside of the tube, and would not come out again. I also made some attempts to remove larvae by placing over them a glass tube, and then by placing my finger over the end of the tube I expected to lift them with the food in which they lay. It did not work. I also tried a medicine-dropper with a specially large end, and Miss Larva promptly shot up to the top, with, of course, fatal results. With a tube of the right air capacity, and having a rubber diaphragm over the top, and with an opening *exactly right*, we may be able to succeed. I believe that the matter is worth further investigation.

Providence, R. I., Jan. 31. ARTHUR C. MILLER.

#### APPLE-BLOSSOM HONEY AND ITS QUALITY.

FOR several years the article that appeared in the A B C of Bee Culture referred to the quality of apple-blossom honey as being very inferior; but in the last edition, that of 1900, this item was changed, and the honey from apple-blossoms is now spoken of as having a very fine flavor. Mr. R. J. Fox, of Natick, Mass., has recently sent us another sample of apple-blossom honey—the pure genuine article. It is light in color, heavy in body, and most delicious in flavor. To my notion, alfalfa stands at the head in point of flavor; white clover and basswood next; but between white clover and genuine apple-blossom I do not know which I prefer. The flavor of the apple-tree honey has the same beautiful delicate aroma that one smells when going through an apple-orchard in the height of bloom.

A. I. Root says he does not know how he came to class apple honey as dark and poorly flavored; but some one has since suggested that perhaps the honey he tested, and which he supposed was from apple-blossoms, was honey from peach-trees—a honey that is not nearly so good as that from apple.

#### THE FOOL POLICY OF SMALL PRODUCERS; LOW PRICES.

THE editor of the *American Bee Journal*, at the Wisconsin convention, in explaining why the prices of comb honey are often put down, told how the small dealer would rush his honey off to market, bring it to the grocer, and sell it at whatever price he was offered. Well, this grocer would, later, needing more honey, go to a commission man and inquire the price of honey, but he would be met with a figure two or three cents above what he had just paid the small producer. Oh, no! he would not pay that price, for he could buy at a much lower price. The commission man, not willing to lose a sale, cuts the price down to the price of the small producer, with the result that prices *fall all along the line*.

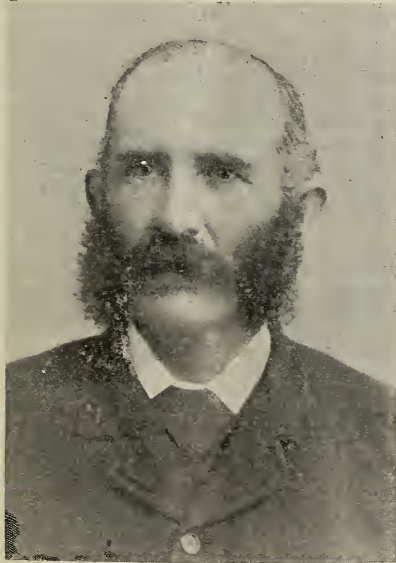
Mr. York urged that all the producers, whether large or small, should first get their prices from recognized honey-buyers or com-



mission men—yes, take a good bee-paper and consult its price current; then, knowing the ruling figures, not to sell lower. He had no objections to producers selling to grocers direct, but he had no patience with the fool policy of some of the small producers who would rush off and sell the first of their crop at two-thirds the regular market price, thus smashing prices right and left.

#### HALL'S WIT AND McEVVOY'S "BLARNEY."

MR. J. B. HALL, of Woodstock, Ont., Canada, whose picture appears elsewhere in this issue, is one of the live spirits of Canadian conventions. From what little I could gather from the Canadians themselves it would seem to me that a convention without Hall would be pretty nearly like Hamlet with Hamlet left out. This year I think he said he could not afford to be present. As soon as the officers knew this they immediately wired him that he "must come, expenses guaranteed," and so we had the pleasure of Mr. Hall's presence. He has an inimitable vein of spontaneous good humor that bubbles over every now and then. Never long-winded, he has a happy faculty of telling sound hard facts from a long experience, in a few words that delight and edify every one.



WM. M'EVVOY, FOUL BROOD INSPECTOR.

—*Canadian Bee Journal.*

At the close of Wm. McEvoy's report as foul-brood inspector, Mr. Hall, in commenting on the inspector and his work, spoke of him after this fashion: "He can get along with cross old men and crooked old women. It is his Irish blarney that gets him through." I did not hear any of this "blarney" that our facetious friend tells about; but on every hand I learned that Mr. McEvoy's success lay in the fact that, while he *rigidly enforced the foul-brood law*, he did it in such a nice splen-

did sort of way that, so far from being the cause of offense, he was invariably invited to "call again."

#### VICIOUS LEGISLATION IN WISCONSIN.

DURING the session of the Wisconsin convention we learned that a bill had been introduced in the Legislature, then in session, had been printed, passed to its second reading, was then in the hands of the House committee for recommendation. The bill starts out with a very innocent preamble, but winds up with the provision that whenever an apiarist finds it necessary, by increase in the number of bees, or lack of pasturage, to move his bees to some other locality or township, he shall pay a tax of \$1.00 per colony per month during the time that such bees are in the new location. As bees are liable to be kept at their out-yards some four months, it would mean that many bee-keepers would have to pay \$4.00 for every colony of bees kept out of their immediate locality. This would amount to the practical prohibition of much of the out-yard business.

But the bill was drafted by some one who evidently did not know his business, for it provided that such tax could be collected when the bees were run "for the purpose of extracted honey." If any one desired to move his bees to a field where they would be run for *comb* honey, or for the purpose of raising bees or queens, the law could not touch him. It was suggested that possibly some one had foul brood taken to his locality, and to prevent the further spread of that disease he had had this bill introduced; but it was later learned that it really was fathered by a bee-keeper who had a few bees, and who had a little spite against a man who had moved some other bees to his locality; and for the purpose of "getting even" with this neighbor he proposed to handicap the bee-keeping interests of the entire State.

The matter was thoroughly discussed at the convention, and was condemned on every side. A resolution was passed condemning it as a piece of vicious legislation. A committee was also appointed, consisting of Pres. France and two others, who were to wait on the committee of the House that had the bill in charge; and before I came away, Pres. France had gained the ears of two or three of the committee, and explained the whole animus that was back of it. The "other side," however, had in the mean time learned of the action of the convention, and were going to put up a fight; but at the last talk I had with Pres. France he said, "I shall stay until the bill is killed."

Pres. France had a good deal to do in securing the passage of the very excellent foul-brood law now in force in Wisconsin. He is familiar with legislative tricks, and knows thoroughly how to pull the legislative wires; and I think the bee-keepers of Wisconsin may feel sure that he will not allow the interests of the State to be jeopardized in any such manner; but for fear he may not be able to kill the measure in the committee it will be well to write to the representatives and senators, protesting against the measure.

## THE JAWS OF A BEE AND A WASP.

At the trial of Utter v. Utter, Prof. Frank Benton, when called on to take the stand, produced a chart showing the mandibles of a bee and those of a wasp. He explained that he had some specimens of bees and wasps from which the drawings had been made; that he had a magnifier, and would give the jury an opportunity, if they desired it, to compare the real things themselves with the drawings, if they desired to verify the diagrams. Of these I have had a photo reproduction made in zinc, and the same are shown herewith. The lower

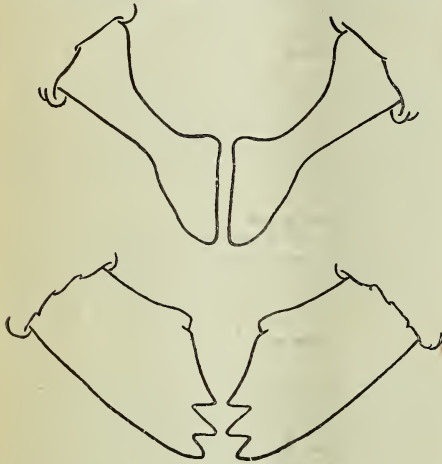


diagram shows the jaws, or mandibles, of the wasp, an insect that is especially fitted, as will be seen from the notched portions, for cutting and gnawing. The upper drawing shows the jaws of a worker bee. It will be noticed that these last are perfectly smooth and rounding on the edges, and are shaped for forming plastic substances, such as wax, at a temperature of 90 degrees. In the opinion of Prof. Benton it was a physical impossibility for a worker bee to do any cutting or puncturing of the skins of either sound grapes or peaches; that these jaws, so far from making incisions, would slide laterally over the smooth surface of the fruit without being able to catch hold; but not so the jaws of the wasp; owing to their special construction, they would work right through the skin of any fruit without any effort; that he had seen them in this very act. He had also seen bumble-bees cut through the delicate corolla-tubes of some kinds of flowers, but never a honey-bee.

It needs only a good magnifier to prove all the professor's statements so far as the general structure of the jaws of bees and wasps was concerned; and all this talk about bees having teeth, sharp cutting edges, and the like, can be disproved at any time by any one if he has ordinary candor and ordinary skill, without taking the *ipse dixit* of any one else.

In this connection it might be well to note that the prosecution, when Prof. Benton admitted that the jaws of the bee were powerful, tried to draw the inference that the bees could

pinch a hole through the skin of a fruit; but the professor and other witnesses showed that, while they might be able to exert a powerful squeeze, yet it would be impossible, owing to the structure of their jaws, to get hold of the skin of the fruit, unless, forsooth, it had already been cut into, or cracked or torn open. If the skin were torn so that they could get hold of it, they could then pull it and probably make the opening larger; but they could no more cut a hole in the surface of a peach than a man could with one hand grab hold of a cannon-ball 15 or 16 inches in diameter.

We expected the prosecution to ask how it was bees could make holes in quilts. But this could easily have been answered by the fact that, while bees could not cut, they could unravel fiber, tearing away piece by piece until they made a hole, in the same way that we can with our fingers pick to pieces a rope.

## NEEDED FOUL-BROOD LEGISLATION IN MICHIGAN; ATTENTION, MICHIGAN BEE-KEEPERS!

FOR two or three years back it has been plain to most progressive bee-keepers in Michigan that foul brood, instead of being brought under control, was spreading throughout the State, and that, too, in spite of the fact that there is already a law on the statute-books, which, at the time it was framed, was supposed would prevent the spread of the disease; but this law, if I remember correctly, applies only to counties, and lacks the very important provision by which it *can be properly enforced*. At all events, it is very certain that, in spite of this law, the disease is making progress, and the most progressive bee-keepers of Michigan believe that a new one should be drafted, somewhat on the line of the Wisconsin measure.

A short time ago the editor of the *Bee keepers' Review* wrote me, asking if it were not possible for the National Bee-keepers' Association to send Hon. George E. Hilton down to the Michigan legislature—one who has been a member of the House of Representatives of Michigan for two terms—for the purpose of steering (or, if you please, lobbying) the bill through both houses. He added, furthermore, that Mr. Hilton was President of the Michigan State Bee-keepers' Association—a bee keeper of extended experience, one who is acquainted with men, and knows how to pull legislative strings at the right time and place. I replied, stating that, so far as I knew, the National Association had never before interested itself in any measure that related to legislation in any particular State; but that I saw no reason why it could not do so, and that I would lay the matter before General Manager Secor, who in turn would probably refer it to the Board of Directors. The former apparently coincided with my view, for he sent a circular letter to all the directors, suggesting that whenever bee-keepers of any State, through their State organization, desire to pass a foul-brood law, there be appropriated from the funds of the National Association a sum not to exceed, say, \$25, this sum to be used to defray the expenses of a skilled lobbyist in the



interest of a reasonable and fair measure. Just what action the Board of Directors will take, perhaps I ought not to forecast; but I believe they will approve of the suggestion; and if they do, the sum of \$25, or whatever is voted, together with a similar sum assessed on any State bee-keepers' association, would go a long way toward paying the expenses of some one to engineer a bill through both houses of any State. As there was not time to get an action in this case from the Association, Mr. Hutchinson and I have agreed to be responsible for a sum not to exceed \$30 toward defraying the expenses of Mr. Hilton.

A great deal of preliminary work had already been done by Mr. Rankin and Mr. Hutchinson; and accordingly last Monday, the time appearing to be ripe, Mr. Hilton went down to Lansing, and stayed there talking to the members of both houses, showing the urgent need of the measure advocated by the Michigan Bee-keepers' Association. So far he has received very favorable assurances from a number of the members of the House, and also of the Senate. The bill has been carefully framed by Mr. Hilton and by Senator Helme.

Toward the close of the Madison convention Mr. Hutchinson, who was with us, suggested that on my return trip home I go by way of Lansing; that he thought that, as an official of the National Bee-keepers' Association, I might have some influence with the legislators at Lansing. The more I thought of this, the more it seemed to me it was the thing to do, especially as it would cost the Association nothing. Accordingly, the morning of the 7th found us at Lansing, where we met Mr. Hilton, who had come to meet Mr. Hutchinson. He was greatly pleased at meeting us both, and expressed the conviction that we had come at the opportune time. He took us to the capitol and there introduced us to prominent members of both Houses, putting great emphasis upon the fact that one of us was "president" and the other "director" of the National Bee-keepers' Association; that the National organization was very much interested in the passage of this bill.

There is a possibility at the present time that the bill may pass both the House and the Senate; but before this can take place a great deal of work needs to be done by bee-keepers in various portions of the State of Michigan, writing to their Senators and Representatives. This work should be undertaken at once.

As sure as fate the bill will never pass unless every Michigan bee-keeper writes at once to his Representative and Senator. Write anyhow, whether you know how to write a business or a legislative letter. If some of you do not know how to spell or punctuate, write just the same, and that right speedily. For fear some may not know who their Representatives are, I have appended a list of the House from each county and district. You will certainly know what county you belong in. Pick out your county and write to your man, not at his postoffice, but at the House of Representatives, Lansing, urging him to support Senator Helme's foul-brood bill should it come over to the House. Say further that the interests of fruit growers and the interests of bee-keepers are at stake; that many of the fruit blossoms would not be fertilized but for the bees; that the bee-keeping industry of Michigan represents something like two millions of dollars, and that you hope he will not only see his way clear to vote for the bill, but to *work* for it. Impress upon him that a great industry is threatened, and that something must be done, and done at once. If you know any one who has a "political pull," and who would be willing to help you, get him to write also. The letter should be addressed, not to the postoffice of the several Representatives, but to the House of Representatives, Lansing, Mich.

Then there should be a letter sent to your Senator. Find out first who he is. This information you can get from any one who is at all up on politics, then write him on the lines above suggested.

Perhaps I am taking a good deal of space for the bee-keepers of one State; if so I am suggesting possibilities and lines of work for other States.

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Watch and pray, that ye enter not into temptation.—MATT. 26:41.

In our last I alluded one or more times to the fact that this spirit of being contrary and disobliging is more apt to show itself after we become quite well acquainted. Years ago I used to hear a sort of adage that "familiarity breeds contempt." Dear friends, this should not be. It is a sad reflection on humanity—yes, on every one of us, when we assent to any such proposition as this. If the adage means that we should avoid getting so well acquainted that we waste time in trifling, perhaps it might answer; but God forbid that we should show less of a gentle Christian spirit and common courtesy *because* we are quite well acquainted. Yet it is true, I know, that with young married people, after the honeymoon is over, as they become acquainted and adjust themselves to the intimate relations of the home and family circle, it is very apt to be the case that they begin gradually to show out little disagreeable traits that were kept out of sight during the days of courting and the honeymoon. Somebody has suggested that one of the comforts of a home is that you can scold when you do not like things. Now, I do not like that either. While you are reading these words I expect to be away off from my home, and much of the time a guest in other homes. When we go away from home on a visit, everybody knows we must be gentle, kind, and courteous. Did you ever have a visitor that was cross and crabbed? Why, he would be turned out of doors, almost. When somebody invites you to come and make his home yours for a little time, you put on your very best behavior. If there is disorder in the new home you would not think of noticing it. If the children's faces are dirty you say to the good wife you well know how impossible it is to keep children clean all the time—that is, if she speaks about their faces *first*. You would not speak about it first for the world. If she begins to apologize because the bread was overdone, and browned in baking, you make haste to tell her that is just the way you like it baked, and beg for the brownest portions. Now, I can do this truthfully. I do not know just how it is with you. I do not mean you should be untruthful; but I do mean that you should, or, rather, that you *do* use such courtesy and good nature, even when things are wrong, that the whole wide world expects of you. I need not go any further. You all know how it is; and I have many times thought it did me good to get away from home and practice for several weeks in being pleasant, smiling, good-natured all the while. I remember after one trip I took to California, I told them in prayer-meeting (when I got home), that, during that trip, my naturally impatient temper seemed to have disappeared entirely. It was altogether out

of sight. Why, I had really forgotten how to scold. I learned it again, however, when I got into the harness of business cares once more.

Now, why can not men and women be as pleasant and good natured, as even-tempered, always the same, in their own home, amid the every-day cares, as when they are abroad and invited guests. In the Pilgrim's Progress we are introduced to a character of whom it was said he was "a saint abroad but a devil at home." Oh dear me! this hits *me* again. I take some comfort, however, in thinking it does not hit me as badly as it did a few years ago. Mrs. Root herself told me recently (in confidence), that I certainly was growing in grace; that the fashion that had followed me all my life, of being harsh and severe when things went wrong, was certainly getting into the background, and that I was growing more gentle and lovable. She did not use these words, but it was something to that effect. Now may God give me grace to keep on watching and praying as in the language of our text.

A few days ago, when I was over home a signature was wanted in a hurry. It was necessary to use ink—a pencil would not do. In this day and age of typewriters, pen and ink are not so much used as formerly, and Mrs. Root flew around to find a pen and a bottle of ink. The latter was soon found; but even when it was tipped up on one corner there was scarcely ink enough to moisten the pen; and when the point of the pen was moistened it would not write. I presume it was too old and rusty. I do not know whether I commenced or not; but it came right to my tongue's end to say, "Well, I wonder if it takes all this time and fuss to get just a pen and ink." But it was so long before the pen and ink were forthcoming that I began to get impatient again, and came pretty near saying, "Well, now, this is a pretty state of affairs, if it takes *half an hour* to find a pen, and ink enough just to write one's name." I am sure I did not make the latter remark, and I rather think I did not say any thing. Perhaps I groaned a little inwardly to think I could not have the privilege of speaking out my mind. Shall I tell you why I could not, here in this "free country" of ours, express my thoughts? Well, just now Mrs. Root and I are the only inmates of our very pretty comfortable home. If this convenient home does not afford a pen and ink it is the fault of us two; and as I was the *grumbler* it could not be *my* fault, so it must be *her* fault—the fault of "the woman you love." There it was again. More than that, this ugly speech would dishonor Christ Jesus our Lord and Savior—he who spake to his followers the words of our text. May be you say again, "O Mr. Root! you are making a big fuss about trifling matters. These things happen everywhere, and no good wife or husband lays them up or feels particularly hurt. Wait a minute. Not many years ago a man rushed into the house and asked his wife for a pen and ink to sign some contract. They had the same kind of "racket" I have been telling you about. The husband became



impatient at the delay, and talked a good deal as I thought of talking. He finally said, as nearly as we could make out:

"Well, this is the dumdest place I ever heard of when anybody happens to want just such a trifling thing as a pen and ink."

I presume he said something more in the same strain. He declares he used the word "dumdest;" but his wife says she understood him to use a word much like it, but a great deal worse. It resulted in a separation. She left his home and went back to her friends, and he said she could stay away until she got ready to come back. Then the neighbors took sides. Just as soon as I heard of it I said, "No, no! they must never separate for any such trifling misunderstanding as that." But they had got a going, other things had been brought up, and some good friends of mine were foolish enough to think the parties should stay separate. But they didn't, and they lived together nicely and pleasantly for years after that. Now, I need not multiply cases like this. You all know of them. Suppose I should get around and call on you. God knows it would delight my heart to make a brief call on every one who reads these Home Papers—that is, if they *want* to see me. Now, suppose, when at your home, I should happen to want a pen and ink, and that the good wife should have a little trouble in finding them—what would you think of me? or, rather, what would you *do* with me if I should blurt out—well, the things I had in mind when Mrs. Root was doing the very best she knew how? Or suppose I should say it was the worst place I ever found in all my travels to find so simple a thing as a pen and ink. I do not *know* what you would do; but I should expect you to "fire me out" of the front gate, and I might think I got off cheaply even then.

You see I am discussing pretty much the point I did in my Home talk just before this. What is the reason we can not preserve the same gentlemanly, courteous, and Christian-like demeanor before our wives and children that we do when in the home of a stranger? It *can* be done, dear friends. It *must* be done if we expect to be accepted as followers of Christ Jesus. Temptations come to us in different ways, I am very well aware. There are some people who seem to find it easy to be courteous, smiling, and slow and deliberate under all circumstances; but, unfortunately, these people are not, as a usual thing, *pushers*. The present day demands men and women who are pushers—who will, for instance, push the saloon, that is encroaching on their neighborhood, completely out of existence. If we have any severe words to use for anybody, let us use them against the saloon-keeper or the midnight assassin. Don't let them come into sight before or toward the woman and the children you love. Let us remember the example we are setting. Let us watch and pray that we enter not into temptation. Our grievances and trials, many of them, are imaginary. In studying up the matter of family relations of the two Utter brothers I was impressed with this. I am *sure* their griev-

ances are largely imaginary. We had one illustration before a bee-keepers' convention that I have once or twice alluded to. A rich man located near a bee-keeper. The bees annoyed him, and he told his neighbor he would have to move them out of the way. A big quarrel started. The two were at swords' points. They made arrangements to go to law, and there was a great long string of grievances on both sides—at least I suppose there was. The quarrel was growing and increasing every day; but, all unbeknown to the two men, something *besides* a quarrel had been going on and "increasing every day." The rich man had a son, and the bee-keeper had a daughter; but the two men had their heads so full of the quarrel and lawsuit they did not seem to know, either one of them, that the young people had become acquainted. I can imagine this boy and girl informing their respective parents (and perhaps they did it, too, with downcast eyes), that they had better soften down a little, for it would look bad to have a lawsuit and a wedding going on so near the same time. Well, these parents had Christian grace enough—or suppose we say good common sense enough—to bury the hatchet, shake hands over the yawning chasm of discontent, and settle down together and be friends and neighbors. I often think of this because it illustrates so clearly that there was no need in the first place of a quarrel. Their reasons for disagreement (like Electropoise (?)) was all imaginary. It was just Satan's work, every bit of it, and two good bright business men could not see it was *he* who was pulling the wool over their eyes. Could not the outcome have been brought about, all the same, even if there had not been any boy or girl in the question? Yes, surely. The love of Jesus Christ ought to accomplish just *exactly* this result every time; and the love of Jesus Christ in the hearts of the two parties who were looking for pen and ink was fully adequate to scatter discord in a second of time. May God help us to bring about that glad day when his kingdom shall come, and his will be done on earth as it is in heaven; and may he help us all to "watch and pray" against the temptation that is sure to come; yes, for the temptation that *will* surely invade even "our homes."



#### THE MICHIGAN BEE-KEEPERS' CONVENTION.

When we go into a railway dining room or even lunch-room we expect, as a rule, to pay bigger prices than almost anywhere else. Well, this in one sense is all right. The eatables are usually first-class, they have to pay high rents for the location, and they must also keep everything ready with plenty of waiters to serve promptly the crowd that rushes in from the train. Well, in view of this it

was a rather pleasant surprise to me to find a very pretty lunch-room at the Pere Marquette station in Toledo, every thing nice, and prices as low as you would find them on almost any street in Toledo or any other city. As in the ticket office, they had pleasant capable *women* to wait on customers. This Pere Marquette depot in Toledo is, by the way, a model institution all around. Even the *baggage-man* is pleasant, quick, and good-natured when passengers are in a hurry to catch a train at some other depot.

I reached Traverse City just in time to be one of the first at the convention. I went a little ahead of time, thinking I could have a chat with the early comers. To my surprise there was not only quite a lot of the men-folks but half a dozen women also. It happened the train was late that brought President Hilton, so we had a very pleasant social for two hours or more while we waited for him. Perhaps some of you may think it a little strange when I tell you that I have not even yet got over my bashfulness as a boy so it is easy for me to take the lead in getting acquainted; but under the circumstances I felt that it rather devolved on me to take the lead; and I assure you I found some extra nice people. A little later Bro. Hutchinson photographed the whole crowd out in front of the hall. It is not only a most excellent picture, but there is one feature of it that is novel. He "took" us during a snowstorm, and you can see the flakes all over our clothing, and the beautiful white snow down about our feet.

In shaking hands with the ladies I met a very bright, vivacious woman who looked so exceedingly pleasant I wondered if I had not met her before. A little later I found out *why* she felt already acquainted with one she had never seen until that day. Two or three years before, she got hold of our A B C book, and she got the bee-fever for sure. She told me she studied the book day and night. She got some bees, and enjoyed working with them in verifying the statements in the book, as she never enjoyed any thing before in all her life. Of course, her friends laughed at her, and predicted failures, etc.; but she is one of the energetic kind, and when she gets started on something, especially something she likes, there is no give up about it. Well, almost while she was a novice—a beginner, in fact—she secured from one hive in one season *ten 2½-pound cases of comb honey*. I believe the sections did not all weigh quite a pound; but there was pretty well toward 240 lbs. of comb honey from that one hive that one season. She is up near my ranch that I told you about, and the bees commenced on apple-bloom. I have not told you much about the apples in the Traverse region, but it is bound to be a great apple country. The bees commenced on apple-bloom, and she actually had some work done in sections. Then raspberry followed right on, then clover, then basswood and willow-herb; and the wild raspberry, if I am correct, gave honey more or less, clear on through the whole season. In fact, I saw honey-bees on the raspberry-blossoms when I was chopping in the woods in October. Per-

haps I have not remembered all the different sources, but that season there was honey right along from apple-bloom until frost killed the wild flowers, and a good strong flow at that. This one colony that did so well was one of 18—that is, she had 18 in the spring to start with. Well, the 18 and their increase gave, if I am correct, over 3000 lbs. of honey, mostly comb. Do you wonder she was anxious to see the man who wrote the A B C book, or that she felt *acquainted* with him without being introduced? I think this big yield was three years ago. I questioned her a good deal about it. Did other bee-keepers notice that the season was any thing remarkable? I rather think not. None of the bee-keepers at the convention did any thing like what Mrs. Jackson did. Was it the season, the locality, or the bee-keeper? I do not quite remember, but I think Mrs. Jackson is a farmer's wife, and the mother of several children; but her *enthusiasm* was what brought the honey crop. And this thing has happened, not only with bees but with fruit, with poultry, and with almost all other rural industries. A beginner, comparatively, with enthusiasm and plenty of help in the way of good books and periodicals, often outstrips the veterans. Yes, and it is a sad fact that some of these veterans can not, to save their lives, do over again what they did when they were just learning. The seasons may not be as good as they used to be 15 or 20 years ago—that is, this may have something to do with it; but failures are more often because we lose enthusiasm than because nature has withheld her rewards.

The photo I mentioned contains a picture of Mrs. Jackson with all the rest. It will be mailed to any one for 75 cts. Address W. Z. Hutchinson, Flint, Mich.

Prof. Rankin, of the Agricultural College at Lansing, gave us quite a little help, especially in the matter of foul brood; and it is a sad fact that foul brood is pretty well scattered through many parts of Michigan. Just a few years ago, somebody, whose name I do not remember, moved a carload of bees up into the Traverse region, and these bees were affected with foul brood. When he discovered how great was the task of eradicating it he went away and left them to scatter through the woods, and damage the industry in that locality for years to come. The transaction was no profit to himself, but a great calamity to that part of the State. May be you think I am a little rough when I say that the man who deliberately does a thing of this kind ought to go to the penitentiary. They are already discussing better laws and energetic measures for the suppression of foul brood. We had some sad stories, I tell you, of what it may do in a locality when allowed to go on unchecked.

Mrs. Jackson has promised to give me a report of her big yield of honey, but I am afraid she has not as much enthusiasm in writing for the journals as she has for getting crops of honey.

The next meeting is to be held at Petosky. The date is not yet decided on. I asked if it was not a mistake to keep the State conven-



tion so much in that corner of the State for three years in succession. But somebody said it was the best point for honey in the whole State, and there were more bee-keepers there; and, besides, when it was put to vote, that was the decision. Of course that would be natural, for nearly all present lived not far away from there.

At the convention I was bantered not a little about my ranch in the woods, eight miles north of Traverse City. After the convention was over I went up there in company with Mr. Hilbert, and we commenced clearing off a place for the cottage. I was greatly anxious to know if I could keep warm and feel well at work out in the woods in winter time. Well, toward night I was ready to swing my hat and praise God because the experiment seemed a complete success. I worked all day in the open air, and enjoyed it hugely. But we were a mile and a half from home. Of course, friend Hilbert's ponies took us flying; but I was so warm and comfortable I declared I did not need the great big outside overcoat that I had when I came up in the morning. Mr. Hilbert, however, constituted himself my guardian, and *insisted* on my putting it on; but I was so exceedingly warm and comfortable without it, I fear I did not button it up very well. I had planned for another outing in the woods next day—in fact, had hired some extra help; but along in the night I was taken with a coughing-spell that came pretty near waking up the rest of the family as well as myself, and I reluctantly gave up my work in the woods in winter. Now, I firmly believe I should not have caught any cold if I had managed right, or if there had been a little bit of cabin or some warm place where I could have stayed in the woods over night. I became so much interested in the work that I did not have a nap all day long at all; then in going home we had to go over hills, and the wind that blew from over across the lake was pretty fierce and cold. If I can just get over in that little bit of dense woods in among the hills, and *stay there*, I feel sure I shall be all right, winter and summer; and when I get to be too old to be of any use anywhere else, that is where Mrs. Root and I are going to stay until—we get tired out and want to come home.

I have spoken to you once or twice about the little girl that I found digging those Early Rose potatoes. She and I have become fast friends since then. One day at the dinner-table her mother remarked:

"Alice says she wishes Mr. Root would stay here, and live right here with us always."

At this remark Alice colored up somewhat and hung her head, while the rest laughed and asked her *why* she wanted me to stay there always. Miss Erna (the young lady who carried one end of the pole for marking the potatoes) suggested it was because her father, Mr. Hilbert, was so much pleasanter when I was around. This made another laugh, and finally Alice was urged to tell just why. She only said we might all guess; and when we guessed right she would tell us—not before. Nobody could guess. I told her we

should have to let the readers of GLEANINGS guess why Alice wanted Mr. Root to live at their house *always*. By the way, we had a joke on Alice a few days later. She came home from school one day and marched into the dining-room with a book in her hand which she picked off from the table where her father and I had left it. As she held it up she said, "Why, what a funny book this must be!"

Her sister then put in, "Why, Alice, what is the book about? Read us the title."

"Why, it reads, 'Farmers with Green Manners.'"

At first nobody caught on, and I was saying to myself, "What in the world does the child mean—'Farmers with Green Manners'?"

But somehow the title sounded a little familiar. Then friend Hilbert began to shake. One after another they caught on. It was the O. Judd Co.'s excellent work entitled "Farming with Green Manures." And, by the way, friend Hilbert has been reading the book over and over, and building some tremendous air-castles on this subject. He says that next year, instead of taking four or five acres to grow a thousand bushels of potatoes, he is going to follow the teachings of that book and get a thousand bushels from one acre. I think I will have to tell the O. Judd Co. of this joke in regard to the title of their book. May be it will furnish somebody a subject on which to write a *new* book on agriculture.



THE GRAND TRAVERSE HAND POTATO-PLANTER.

On page 817, Oct. 15, I described the hand potato-planter used in the great potato locality round about the Grand Traverse region. Let me repeat, there are quite a number of hand potato-planter, somewhat similar to this, on the market, or that have been peddled around, especially the one with a tin tube to drop the potatoes in at the top. Now, this tube arrangement is not what is wanted at all. I was induced to buy one of an agent, and so was friend Hilbert; but they are not worth any thing at all. To push the implement down, even into mellow ground, you want your *foot right on it* as in the figure. In the first place, you want your ground marked both ways; and I would use the chain arrangement as pictured and described on p. 975, Dec. 15. You can plant your potatoes, with little extra expense, so as to cultivate both ways; but whether you decide to cultivate both ways or not, I would mark the ground both ways. By the way, at a recent visit at friend Hilbert's, one of his daughters, a bright young lady of 14, remarked that the picture was not just right. She said there ought to be a boy at one end and a girl at the other, and the girl would represent herself, for she carried one end of the pole to mark their potatoes last

season ; and, in fact, a boy and girl will mark just about as well as a team of horses. They don't tramp down your nice ground as horses do. Well, after you get a planter there is a special knack or trick in using it just right. The directions below will make it plain.

#### DIRECTIONS FOR THE ACME HAND POTATO PLANTER.

Take the planter in the right hand, with lever pointing ahead. With the left hand reach into the sack and select the seed required. Don't stoop, but raise the planter to meet the hand. Drop the seed into the hopper. Steadily lower the planter to the mark ; step on the hopper, not on the lever, and with the left foot press the planter into ground, then step ahead with the same foot, at the same time pushing forward the handle, which releases the seed ; drag the right foot over the hill in bringing it forward ; this brings you to the next hill. While planting the seed, the left hand has gone to the sack to secure seed for the next hill. In planting with the left hand, reverse these directions. If these directions are followed, the operator will move ahead at every motion.



PLANTING POTATOES WITH THE ACME PLANTER.

Now, please do not think you know a much better way. The manufacturers of the implement have spent much time, and have watched the machine while it planted thousands of acres. Let me say again that Mr. Hilbert's boy, when he was 17 years old, planted two acres of potatoes all alone in one day ; and the work was done well. I saw acres that had been planted with this machine. This implement was invented in the Grand Traverse region, and everybody there uses it.

I wish to call attention to the concluding sentence of the directions. Almost fifty years ago, when my brother and myself were boys, we were planting corn by hand, with a hoe. I

think there were four of us—two men and two boys. Well, my brother, about 18 years old, walked right away from the rest of the planters, and did his work just as well as the grown-up men did theirs. I was of an inquiring disposition then, just as I am now, and I insisted on finding out the whys and wherefores. He laughingly explained to the rest of us that we stood still and took both hands to dig a place to put the corn. Now, he pulled away dirt enough to leave a cavity, with his hoe in his *right* hand, while he picked the corn out of his pocket with the *left* hand. In fact, he had trained his two hands so that they worked independently. One did one thing, and the other did another thing. In that way he could walk right along and do his work just as well as we did ours. Of course, it took a little more strength and a little more brains to keep every thing going. I soon learned the trick ; but the two old men could not get out of their old ruts. I think my father afterward turned them off and let his two boys finish the corn planting.

Now, I have seen this same thing a thousand times through life. A good many grown up people, strong able men and women, will think they are going to be killed or injured in some way if you insist that they teach their two hands so one will do one thing at the same time that the other does something else. When I get hold of a boy or girl who is teachable, and will catch on to the idea that such a one can do ever so much more work by keeping both hands busy, such a boy or girl gets promoted. Those who can not learn the trick of thus saving time and money soon get out of a job. Now, with this potato-planter you have got to learn to do just this thing—that is, learn the trick of keeping not only both *hands* but both *feet* busy at work all the time. Of course, you must have your potatoes cut and located at the ends of the rows ; and then you will have to find out by experiment just how many will go across the lot, so that you do not unnecessarily carry potatoes across the field and then carry the same ones right back. If your field is very large, have some potatoes located along the line through the middle of the field as well as at the outsidess.

I forgot to add in the proper place, that, where the ground was nice and mellow, my brother and I covered the corn with a motion of the foot. The old men I alluded to stood still to dig a place for the corn, stood still while they counted out so many kernels, and stood still *again* until they hoed some dirt over the grain, and flattened the top of the hill with the hoe. Of course, this planting of corn by hand is all out of date now. I mention the matter only by way of illustration. This hand potato-planter and one man will plant almost as many acres as you can plant with a man and team, and our best machines want a boy besides. The machine planter will, of course, work in ground not as thoroughly fitted as it needs to be for hand planting. But I do not believe the machines will give any better results, after having looked the matter over very thoroughly.

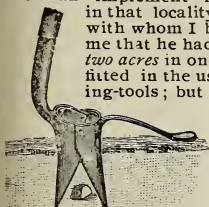
Please notice you do not have to stoop over



at all to put the potato in the planter. Just raise the planter with your right hand until the opening (right where the man in the picture is resting his foot) comes so the left hand can take the potato out of the bag and put it in the planter, both hands working together.

The following additional description is taken from our 1901 price list:

While in the region of Grand Traverse Bay last fall I found the principal crop for miles around was potatoes, the soil and climate being especially adapted to this crop; and I was both surprised and pleased to find that the planting was done almost entirely by hand, with an implement invented and manufactured in that locality. A bright boy, 18 years old, with whom I became acquainted, informed me that he had with this machine planted *two acres* in one day himself. The ground is tilled in the usual way with ordinary farming-tools; but after that (see *Gleanings*, Dec. 15, page 975), both marking and planting are done by hand. The following, which I take from the manufacturer's circular, I think is a fair statement of the merits of the machine. The cut adjoining explains the way in which the machine is made; but we can furnish a larger cut with descriptive circulars, showing just how the planter is to be used, on application.



HOW IT WORKS.

"The Acme hand potato-planter makes the holes, and drops and covers at one operation. Once over the field does the work.

"It makes planting easier. The erect position; the carrying of the seed on the shoulder; the ease with which it can be changed from one shoulder to the other, make this part of farmwork much less disagreeable. 'Almost as easy as walking.'

"Ten pounds of seed will plant thirty rods of row if five bushels of seed is used to the acre. This will average only five pounds if the seed is distributed at intervals of thirty rods.

"It plants better. It is very important in planting potatoes that they be placed in moist soil, and covered before the soil dries out. Ordinarily the holes are made, or furrows turned in if a horse is used, and the soil exposed to the hot sun for the day. The soil soon dries out. Next the sets are dropped, and perhaps they are left to blister in the sun; they are then covered at unequal depths. The dry ground absorbs the moisture that may be left in the seed, and the result is—no crop.

"With the Acme hand planter the seed is planted at a uniform depth directly into the moist soil, where it can not dry out or blister, nor is the soil disturbed. The success of the planting is thus assured.

"The implement is light, weighing but 2½ pounds, but strong and durable. We have a planter in our office that has planted for eleven seasons. It was then brought in to be repaired!"

#### GROWING THE SOJA BEAN (OR AMERICAN COFFEE-BERRY) IN NORTHERN OHIO.

Learning that the writer whose communication appears below had grown successfully quite a crop of fully matured soja beans, I wrote him for particulars, and he furnishes the following:

We plowed the ground May 10th, and harrowed it thoroughly. We had some seed raised from a packet of American coffee-berry purchased of you. The strip we planted was so poor we were certain it would not pay to plant it to corn. We applied acid phosphate, or South Carolina rock, at the rate of 250 lbs. per acre. It was drilled in with a grain-drill with fertilizer attachment. We then marked it in rows 30 inches apart, and drilled the beans in by hand after the fashion of early peas—i. e., about an inch apart in the row. We went over them with a weeder just before they were through the ground. After they were up we cultivated them thoroughly as deep and close to rows as possible, until they were about three inches high. From there on we gave them shallow cultivation, and just kept the ground nice and fine on top as long as we could get between the rows. They grow very rapidly, covering the ground completely. They

root so deeply that drouth does not seem to affect them; they even grow and produce well when planted in among the corn. We planted the beans May 15, and harvested them Sept. 5. We drove along each row with a mowing machine, and cut them; then followed, put them in bunches, and left them to cure for about a week. We used a common thrashing-machine to thrash them, removing all but one row of concaves, running very slowly, and always keeping the cylinder nearly full to avoid throwing beans all over the barn. The quarter acre yielded about 8 bushels. The soil was a mixture of clay and sand. J. McQUEEN.

Baltic, O.

Now, this is interesting, for the soja bean has met with favor everywhere. It not only makes excellent hay and feed, but for plowing under to enrich the ground there is probably no plant known that is its superior. Our experiment station goes further, and informs us that where the crop is taken off the ground completely, for hay or seed, the soil on which it grew has been benefited for almost any other crop. We can furnish a leaflet on application, telling more about this new forage plant.

#### GRAPE FRUIT IN FLORIDA; HOW MUCH MAY THE CROP BE WORTH ON A SINGLE TREE?

I noticed your call for a report about grape fruit, and was surprised not to see a good item or two, in your last issue, on the subject. Let me say 12 boxes is nowhere. There are trees in DeSoto Co. here in South Florida that have on them this year very nearly 100 boxes to a tree—standard orange-boxes. There have been 50.0 fruit picked from one tree. The 100-box trees are about 60 years old. The trunks are about 2½ feet in diameter, and the trees are nearly 50 feet high. Now, don't get excited, or want to come here to find a Klondike, for we Floridians have enough young grape-fruit groves set out to reduce prices in a few years so everybody can eat the fruit.

If no one else sends in a full detailed account of this fruit, I will do so on request, or will answer inquiries by mail. Florida will soon rival Michigan in celery-growing. If you happen along this winter, drop off at Sanford and see successful celery-growers. Lakemont, Fla., Dec. 14. C. W. BROWN.

#### GRAPE FRUIT AT \$12.00 A BOX.

On page 928, M. W. Shepherd says a gentleman living near Sarasota, Fla., sold 12 boxes of grape fruit from one tree, and received \$12.00 per box. This may be possible, and we will not question the gentleman's veracity; but at the same time we don't want the whole country flocking down on us to raise \$12.00 grape fruit. They might be disappointed. True, it is a profitable crop for Florida where it is not too cold. The usual price is about \$7.00 per box for best sizes, and they will sometimes bear a box at five-years-old bud. They are nature's own tonic, besides being most delicious eating. N. O. PENNY.

Nathan, Fla., Dec. 8.

I confess it occurred to me, when I first saw the above statement, that \$12.00 was a big price, for we used to buy grape fruit for less than half that amount; but I supposed it had probably increased in popularity, and that the price had gone up. Very likely friend Shepherd can explain. Very large and fine fruit brings better prices, of course, than the kind that is often sent north.

#### HOW TO GROW COLD-FRAME LETTUCE IN NEW JERSEY; STARTING OUR PLANTS IN THE SEED BED.

About the 10th of August we prepare our ground by taking a small piece of sandy loam or soil, and plow it about three inches deep, and then take an iron rake and pulverize the soil until the lumps and trash are removed and the soil is nice and fine, and then we broadcast, and then rake them in lightly and sprinkle with water, and then take boards and cover the beds so they will be about six inches from the ground, for we can not get the seed to sprout without covering. Leave the boards on until the seed is up, and then remove the covering just before sunset; and if the

weather is cool it is better for the plants; for if the sun is hot it will need a little care to keep from burning.

#### TRANSPLANTING TO COLD-FRAMES.

About the first of September is the time to prepare the bed for transplanting. Clear the ground of all trash, and get the soil the same as for sowing the seed, and then take fish-guano and broadcast over the soil, and then work the guano well in the soil; then leave it until about the 10th of September. Transplant your plants to this bed by setting the plants 8 inches each way, and then the plants do not need much care except a little watering if the weather should be dry, until frost, and then the sash must be put on at night to keep the frost from frosting the plants. About the 10th of November it is ready for the market, and will bring from 3 to 5 cts. per head; and to grow it nicely it should grow nearly natural. We can not grow hot-house lettuce with us for it gets lousy, so that the lice kill it. It is not a success. GILBERT M. SHUTE.

Clarksboro, N. J., Dec. 15.

#### GINSENG CULTURE.

Since I have invested quite a little money in plants, and have utterly failed to make even one plant grow, I have been criticised rather severely because we have declined advertisements pertaining to the ginseng industry. I have recently written to the people at our experiment station in regard to it, and here is what Prof. Green says:

*Mr. A. I. Root.*—I do not know much about ginseng culture, although there is a man not far from here who is experimenting along that line. We have done nothing with it, but have thought we might commence experiments with it next spring. The man referred to has had more trouble with insects and diseases than he has had in getting the plants to grow. It is certainly not the kind of business that every one can expect to succeed in, because the plants are not only difficult to grow, but seem to be quite subject to disease.

W. J. GREEN, Horticulturist.

Wooster, O., Dec. 13.

Now, friends, every thing of this sort should be first tested and tried by the experiment stations of our different States. When they tell us there is a reasonable prospect of success in it, then is the time to invest, and not before. The trouble mentioned is exactly the one that I have found. Insects and fungi seem to finish up the plants, no matter what kind of soil and treatment I gave them.

#### TRAP NESTS, AND SOMETHING ABOUT POULTRY IN GENERAL.

*Mr. A. I. Root.*—I have been a constant reader of GLEANINGS for more than twenty years. I like your Home Papers, and believe that I am a better man today from reading and trying to follow the precepts given therein. I also like your high-pressure gardening; but when I tell you that I have been a "chicken fancier" for more than forty years you will have some idea of the pleasure it gave me to read your article on high-pressure poultry-raising in your Jan. 1st issue. Now, can't you "walk around the stairs" and devise a trap nest that anybody can make without paying a royalty? I attended the poultry show in Philadelphia, and was quite surprised at the number of bee-keepers I met—the same people I had been meeting for years at bee-keepers' conventions, and never dreamed that they had the hen fever; but you know the old saw, "birds of a feather will flock together." I have been called a fool with a big D because I paid \$3.00 for a setting of eggs; but my wife and children have sat down to many a good dinner of roast chicken, fried chicken, broiled chicken, stewed chicken, chicken potpie, and omelets, custards, eggs boiled, fried, etc.; whereas the wife and children of the man who called me a fool did not have either, because the tavern-keeper got more of his money than I paid for my fancy eggs. From one setting of eggs I once sold \$40 worth of chickens, and I sold only four and kept six for myself. Now don't forget the trap nest. Let the gardeners and bee-keepers rest for a while, and talk chicken. Ashbourne, Pa., Jan. 10.

W. E. FLOWER.

Over twenty years ago, in our first bee-hive factory up on the street there used to be a central stairway on the first floor. When I wanted to study up something on hives I used to walk around this stairway while I worked out the problem, and the readers of GLEANINGS then got hold of the expression our friend uses in his kind letter. When they wanted me to help them out on something they had been planning they used to say, "Bro. Root, walk around the stairs and think it over."

In response to the above kind invitation I have sent for all the patent nests, and directions for making the same, that I could find advertised. I have before expressed my opinion in regard to selling secrets or plans for making any thing for a certain amount of money. I have advised the inventors and manufacturers of trap nests to patent them if they like, but, instead of selling rights, sell the nests for so much, set up or in the flat. The objection made to this by many of them is that they can buy cheap pine boxes at the groceries, that answer every purpose of a patent nest, with a little fixing over. To illustrate: One of the best patent nests I have yet gotten hold of (and it cost me \$2.00 for the right and patent directions to make) is something like this: Get any kind of box at the grocery (for five or ten cents), big enough for a hen's nest. Stand it on end—that is, so its longest way is up and down; then cut a round or oval hole though one side of the box, with its lower edge just a little above the bottom, just right for the hen to step up a little as she goes into the nest. Now put this where the hen has been laying. Such a nest suits her first rate, for it is inclosed all around, and tolerably dark. She has just room enough to get in and out. The box should be large enough so she can turn around comfortably on the nest, but not too large. Of course, there is nothing to patent on such a nest. Well, the door is a swinging door. It is like the door that shuts over a common padlock to keep the rain and snow out. Suppose you cut a piece of wood about the shape of a pumpkin seed. Make a hole through where the point is, and put in a screw. Hang this over the hole of your hen's nest, and it makes a door. But you do not want this door to close the opening entirely. Cut away a little of one side so the hen can put her head in and see the nest she is familiar with. Yes, make the opening large enough so if she crowds a little it will swing off to one side. Well, now, this is very simple. Nobody can claim a patent on such a nest; and the patented feature comes in on the latch to *fasten* the door as it drops back after she has got inside.

Now, there is no end of door-latches, and nobody could get a patent on the simple idea of having the door fasten itself whenever it swings down. But there might be a peculiar latch for the special purpose, that would be patentable. A very pretty pamphlet goes with the nest I have described, which contains considerable information in regard to the whole business of making and using trap nests. You can make a home-made nest, such as I have described, without buying a patent from any-



body; or you can procure for \$2.00 a right to use the patent nest, including a sample door and latch, by mail, postpaid.

Another trap nest that has been found to work very nicely by the Maine Experiment Station is described in their reports.

The Cyphers incubator people furnish a nest, ready made, for \$1.50, which they recommend very highly.

Perhaps one of the simplest trap nests is described in the back part of a book furnished by the O. Judd Co., entitled, "Low-cost Poultry-houses," 25 cents. We can send this book from our office if our friends want it.

The "Advance" trap nest furnished by W. Darling, South Setauket, L. I., is \$1.50. I have not seen this, but I should think it would work all right.

A prominent agricultural writer furnishes a little pamphlet describing a trap nest, or a nest that can be easily arranged so as to trap the hen when she uses it, together with a new hatching system, for \$1.00. This trap nest amounts to the same thing as the one described in the book I have mentioned, sold by the O. Judd Co.; but I think the one in the book is much the simpler and easier to make.

As we have now about finished the subject of trap nests I wish to say something about the "new hatching system," or the "natural-hen incubator," for it amounts to the same thing. I wrote up the natural-hen incubator something over one year ago. The invention of the writer mentioned above is a nest made out of a drygoods box, such as I have described, with a little poultry-netting yard, so the sitting hen can not get away from her eggs very far, and no other hen nor any thing else can get to her nest to bother her. Food and water are provided, of course, in this poultry-netting yard. This device, you will see, is simply a modification of the natural-hen incubator, only the latter is made by having a lot of hens' nests and a lot of yards all in compact form. Now, although the vendors of these devices would persuade us that they are entirely new, the thing is *not* new at all. I find both pictured and described in the book entitled "Profits in Poultry," sold by the O. Judd Co., and the book has been in our book-list for more than ten years. In fact, I found both devices pictured and described in an old edition as far back as 1886. Both parties who sell this yarded sitting-hen arrangement tell doleful stories about the loss of money and loss of eggs with incubators; and no doubt it is true one can, in almost any neighborhood, find incubators that have been purchased and laid aside; but even if this is true, their efforts to make it appear that everybody who buys an incubator is humbugged are very far from the truth. Sitting hens may be very good where you can get enough to stock a sitting-hen incubator on short notice.

But let me touch on one point that the sitting-hen men seem to overlook. I have been waiting all winter to get a sitting hen. I have told the neighbors right and left I would pay almost any price for a hen that wanted to sit. But all the hens in our neighborhood seem to

have quit the business. Had I known this I would have bought a \$5.00 incubator in December, and had some chickens to play with all winter. Of course, I do not know how *many* (we must not count our chickens before they are hatched, you know); but I feel sure I might have had a few. Will our good friend (the agricultural writer) and that other fellow in that same line of business (Natural-hen Incubator Co., of Columbus, Neb.), tell us how we are to get sitting hens to stock their machines, for that institution advertises that a 100-egg incubator can be made on their plan for \$2.00? This may be true, but I think the \$2.00 would have to be stretched pretty well; and after the machine is made, eight or ten hens must be forthcoming that *want to sit*, before the thing can be started.

Now, even though it is out of my line of business somewhat, I protest against this plan of asking people for a dollar for the information contained in a little bit of pamphlet or on a single sheet of paper. The pamphlets or sheets of paper can be printed for a cent each or less; and when you *get* the information, almost invariably the very thing is found in our books that have been before the world for years past.

By the way, I have not seen any mention in any of the poultry books or journals of the fact that an electric light is the best thing in the world for testing eggs. With a fifty-candle-power lamp, shaded and arranged just right, you can see every thing inside of an egg. I have not had a chance yet to test it with eggs from an incubator. One more item: All the books and journals recommend a scratching shed, and most of them say this shed should be open to the sun and air whenever the weather permits; and cloth frames are recommended in place of glass when the weather is not bad. The cloth is cheaper, gives light enough, and also gives just about as much air through it as the poultry ought to have. Now, the cheapest way in the world to move the cloth according to the weather is by having it roll up, on the plan described in our tomato-book.

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## Humbugs and Swindles.

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DUNNING LETTERS, FOR SOMETHING YOU DID NOT ORDER AND DID NOT HAVE.

It seems the swindling fraternity are finding new tricks for the new century. One of the latest is to threaten people with a suit at law unless they send the swindlers a certain sum of money forthwith. Several of the letters have already been mailed to us, asking us if they had not better pay the amount (two or three dollars as the case may be) in order to keep out of trouble. This threatening letter is usually sent to somebody who answered an advertisement some time ago, and perhaps sent a small sum of money for the advertised nostrum. Let me say, first, that nobody can collect or will undertake to collect any money from you for something you did not order and did not have. Another thing, these letters are

skillfully gotten up so as to appear to be *bona-fide* type-written productions, when they are nothing but printed circulars in letter form. These rascals print them by the thousands, and mail them for a cent each, knowing that every little while they will get hold of somebody who is foolish enough to be frightened by their threats of "United States courts," etc. One such medicine firm, whose letter is now before me, is the Hospitaline Remedy Co., of New York. The man it was sent to is Henry F. Buck, of Bucksin, Mich. He says he was foolish enough to send them money in advance for the medicine he had, about a year ago; but it never did him a particle of good—just money thrown away; and now they are trying to blackmail him for some *more* money. A similar letter came to a relative of mine, a widow. Her husband purchased some medicine of a firm several years ago, but he paid for it at the time, as a matter of course. Instead of handing over any money in answer to such threats, just mail all such letters to us and we will show the parties up.

The dunning letter Mr. Buck sends us does not have his name, nor that of anybody else, for that matter. His name was on the outside of the envelope, where the letter was addressed to him.



#### NATIONAL BEE-KEEPERS' ASSOCIATION.

**OBJECT:**—Defense of the rights of bee-keepers; prosecution of dishonest commission men and glucose adulterators; but only members are entitled to protection.

**OFFICERS:**—E. R. Root, President, Medina, O.; R. C. Aikin, Vice-president, Loveland, Col.; Dr. A. B. Mason, Secretary, 3512 Monroe St., Sta. B, Toledo, O.; Eugene Secor, Gen'l Manager, Forest City, Ia.

**FEES:**—Annual membership fee \$1.00. Remittances may be sent here or to General Manager as above.

#### OUR CATALOG FOR 1901.

Owing to delay in the completion of the present edition of the A B C of Bee Culture and other printing about the beginning of the new year, we are a little late in getting out our catalog. We have already mailed a copy to the readers of GLEANINGS, and expect to get around to our larger list of applicants by the first of March or soon after. We have printed 10 000 catalogs for Geo. W. York & Co., who have just moved to 144-146 Erie St., about five blocks further north than the old location; also 12,000 for Jos. Nyswander, Des Moines, Iowa. Catalogs for other dealers will be distributed within the next two weeks. If you have not received your catalog yet, send for it; and if you know of others in your neighborhood interested in bees, or likely to be, send us their names and we shall be pleased to send them a copy.

#### SECOND-HAND MACHINERY.

We have on hand quite a number of second-hand machines which might be of use to some of our readers if they knew of them. We have several machines for cutting the slots in sections, section-holder bottoms, or separators. One is a single-head machine, hand-fed, which sells new for \$25.00. This is just as good as new for service, and we offer it complete with wood frame for \$12.50 just half price. We have also two or three double-head feed machines which sell new for \$75.00. One or two of these machines are almost new, and just as good for service, and we offer them at \$40.00 each. A third was slightly damaged by a fire,

but is in good shape. We offer this one at \$30.00. We have also several saw-tables for ripping, worth from \$10.00 to \$20.00 in present condition. Further particulars on application, to those interested. Last, but not least, we are just installing a new machine for dovetailing our hives both sides at once, with which we expect to do the work much more rapidly and very accurately. It will be hard to improve very much upon the work we have been doing on our present machine, which will be for sale as soon as the new one is installed and accepted. The old machine is practically as good as ever, and is capable of dovetailing nearly 1000 hives a day, and doing it in the excellent manner which has given our Dovetailed hive an enviable reputation. We would not build a new one like it for less than \$500; but we will sell this one for much less. We shall be pleased to hear from any one interested, when we will give further particulars and price.

#### REMOVAL NOTICE.

In our last issue, in the department of Pickings, we referred to the fire and water loss at the office of the *American Bee Journal*, on the first day of the year. The publishers have put forth a notice which we are pleased to put before our readers:

Beginning Feb. 1st, our place of business will be at 144 and 146 Erie Street, instead of 118 Michigan Street. Our correspondents, and customers who are in the habit of calling at our office, will please note this change in location.

After our loss and general disturbance here, caused by the fire in this building on Jan. 1st, we concluded it would be best for us to seek another location. We had little trouble in finding what we think will suit us exactly.

The new place is on the first or ground floor—so there will be no more stairs to climb, as is the case here. Also, there will be no need for a freight elevator at the rear, on which we have had to load and unload all our goods the past eight years. This will save considerable handling. We shall have a larger floor space at our new location, so we shall be able to have every thing on one floor instead of on two as has been the case here a part of the time.

Our new office—144 and 146 Erie Street—is just a few short city blocks (about 100 rods) due north of the Chicago & Northwestern Railway Passenger Station on Wells Street. We shall be about midway between Wells Street and Franklin Street on Erie Street.

We think now none of our friends who come to the city will experience any difficulty in finding us.

Come and see us in our new business home—after Feb. 1st. GEORGE W. YORK & CO.

The change, we anticipate, will be better in every way. There is no great loss without some small gain.

#### Special Notices by A. I. Root.

##### OFF FOR FLORIDA.

To-day, Feb. 4, during a big snowstorm, I start out for the sunny South, to meet the friends once more, or at least a part of them, with whom I had such a pleasant acquaintance six years ago.

##### JAPANESE BUCKWHEAT—ADVANCE IN PRICE.

Although we have sold 100 bushels or more at 75 cts. a bushel, it has now gone up so we should be glad to buy at that price or a little more. Under the circumstances the lowest price we can offer it is, two-bushel bag \$2.00. For smaller quantities see our new seed catalog just out.

##### ADVANCE IN SWEET CLOVER.

Instead of 100 lbs. at 5 cts., as heretofore, after this date we shall have to make the price 100 lbs. at 7 cts.; 10 lbs. or less at 8 cts. By mail, 1 lb. will be 20 cts. The above is for sweet-clover seed with the hulls on. Hulled seed, sometimes called Bokhara, will be 3 cts. per lb. more than the above prices. As there are a good many more seeds of the hulled in a pound you can not tell exactly which is the cheaper in the end.

##### HENDERSON'S BUSH LIMA BEANS.

When all other beans are so well up in price, it is a little refreshing to know that we are enabled to furnish Henderson's bush lima. 1 pint, 8 cts.; quart, 15 cts.; peck, \$1.00; bushel, \$3.50. This is the earliest lima bean known, and they are wonderfully productive. So far as I know they will grow and ripen any-